2019 North Dakota HIV, STI, TB & Viral Hepatitis Epidemiologic Profile

March 2021

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Introduction

The HIV, STIs, TB and Viral Hepatitis Epidemiologic Profile describes the epidemiology of HIV/AIDS; sexually transmitted infections (chlamydia, gonorrhea and syphilis); tuberculosis (latent and active); hepatitis B (HBV); and hepatitis C (HCV) in North Dakota during 2019. This profile covers the general epidemiology of the above conditions in terms of gender, age, race, geography and associated casual factors. This profile was created to assist in developing a Comprehensive Jurisdictional HIV and Viral Hepatitis Prevention and Care Plan. Information in this report is used to characterize and predict the changing epidemic at the local level. North Dakota data is summarized annually to help North Dakota's Department of Health (NDDoH) answer questions about how to prevent these diseases in the population.

Table 1. Common abbreviations/acronyms used throughout this profile

ABBREVIATION	FULL DESCRIPTION
ADAP	AIDS Drug Assistance Program
AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral Therapy
CDC	Centers for Disease Control & Prevention
CSTE	Council of State and Territorial Epidemiologists
CTR	Counseling, Testing and Referral
EHARS	Electronic HIV/AIDS Reporting System
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
IDU	Injection Drug Use
HRSA	Human Resources and Services Administration
MSM	Men Who Have Sex with Men
NDDOH	North Dakota Department of Health
PLWH	Persons Living With HIV/AIDS
PrEP	Pre-exposure prophylaxis
PWID	Persons Who Inject Drugs
RW	Ryan White
STI	Sexually Transmitted Infection
TB	Tuberculosis

Data Sources

Data was compiled from a number of sources to present the most complete picture of the epidemiology of diseases as possible. However, because few behavioral or supplemental surveillance projects are available in North Dakota, core surveillance data is utilized extensively. Each data source has strengths and limitations. A brief description of each source follows.

Maven

The North Dakota Electronic Disease Surveillance System, known as Maven, is an electronic disease surveillance system that allows public health officials to receive, manage, process and analyze disease and other condition-related data. Maven offers tools for automatic disease reporting, case investigations, and case follow-up and management within the state of North Dakota. It is an integrative system allowing easy sharing and connecting among the NDDoH, local public health, and providers.

HIV/AIDS Data Sources

HIV/AIDS Case Surveillance

A diagnosis of HIV/AIDS is a mandatory reportable condition to the NDDoH according to North Dakota Century Code Chapter 23-07-01 and North Dakota Administrative Code Chapter 33-06-01. Reports of HIV/AIDS cases can be provided by physicians, hospitals, laboratories and other institutions. The data is stored in the electronic HIV/AIDS Reporting System (eHARS) and Maven databases. Statistics and trends presented in this report were derived from HIV/AIDS case data reported to the NDDoH cumulatively starting in 1984 through December 31, 2019.

HIV/HCV Counseling and Testing Data

The NDDoH contracted with 22 Counseling, Testing and Referral (CTR) sites in 2019. CTR sites offer free, confidential HIV and HCV rapid and confirmatory testing and counseling in North Dakota. Participants complete risk assessments as part of their visit. These risk assessments along with demographics, testing history, test results and sexual health history information are reported to the NDDoH via Maven.

HIV Care Data/Ryan White Part B Program

The North Dakota Ryan White Part B Program assists low-income North Dakota residents living with HIV or AIDS to access confidential health and supportive services. The program was implemented in 1991. In order to participate in the North Dakota Ryan White Part B Program, one must be a resident of North Dakota, have a gross income of less than 400 percent of the current Federal Poverty Level and have proof of HIV infection.

Part B services include core and supportive medical services. Core services include outpatient/ambulatory medical services, AIDS Drug Assistance Program (ADAP), oral health care, health insurance premium assistance, mental health services and medical case management. Supportive services include non-medical case management, housing services, medical transportation services and emergency financial assistance.

The Ryan White Part B Program manages program information using Maven. This has allowed for integration and sharing of information between HIV Prevention and Surveillance programs. This system ensures that required client-level data elements are collected and reported to HRSA. The "real time" nature of the networked system allows the Ryan White Part B Program to monitor specific indicators (e.g., number of clients without medical insurance) in a more timely fashion, and it gives case managers access to view lab work and medication so that clients can be served more effectively.

STI Data Sources

STI Surveillance Case Reporting

The NDDoH STI Program conducts statewide surveillance to determine the number of reported cases of STIs. The data is used to monitor trends and to offer voluntary partner counseling and partner notification services. Chlamydia, gonorrhea and syphilis cases are mandatory reportable conditions in North Dakota. STI surveillance data can serve as surrogate markers for unsafe sexual practices and may demonstrate changes in behavior among specific populations that increase their risk for HIV infection. Because of a shorter time from infection to symptomatic disease, STI diagnoses may better indicate recent unsafe behavior and/or changes in community norms. In addition, certain STIs can facilitate the transmission of HIV infection.

Tuberculosis Surveillance Data

Tuberculosis (*Mycobacterium tuberculosis* and *Mycobacterium bovis*) disease and tuberculosis infection are mandatory reportable conditions and must be reported to the NDDoH according to North Dakota Administrative Code Chapter 33-06. The data are stored within Maven and are used to monitor ongoing treatment and management of tuberculosis disease and tuberculosis infection. The Maven system also serves as a method of communication between the TB Prevention and Control program and the TB contract pharmacy to ensure timely medication dispensing.

Viral Hepatitis Surveillance Data

The Hepatitis Program receives reports of acute and chronic cases of HBV and HCV infections. HBV infections are investigated to determine if post-exposure immune-prophylaxis procedures for contacts were followed. Follow-up is conducted on females of child-bearing age (14 to 49 years) who are HBV positive to determine if they are pregnant. Pregnant females who are HBV positive are then followed by the perinatal HBV prevention coordinator in the immunization program. The coordinator ensures the hospital has HBV immune globulin (HBIG) for administration to the baby at time of delivery. The coordinator also confirms the baby is given the HBV vaccine series and ensures serology testing is done at completion of the vaccine series to ensure the child is not infected and is immune to the HBV virus.

Cases of HCV that are reported as acute are followed by a case investigation. Cases of HCV that are determined to be chronic HCV are not routinely investigated. There is no partner notification

conducted by the NDDoH. Under-reporting of both acute and chronic HCV infections in North Dakota is likely. Data reported here does not distinguish between resolved and active infections.

Vital Statistics Data

Birth and Death Data

The NDDoH Division of Vital Statistics collects information on all births and deaths in North Dakota. The birth certificate form includes demographic information on the newborn infant and the parents, prenatal care, maternal medical history, mode of delivery, events of labor and abnormal conditions of the infant. Death certificates include demographics, underlying cause of death and factors contributing to the death. The surveillance program reviews death certificates on a weekly basis to ascertain deaths of HIV-positive persons. The surveillance program also electronically matches data with death and birth databases annually to ascertain deaths of persons with HIV/AIDS and births to HIV-infected females.

Demographic Data

U.S. Census Bureau

The Census Bureau collects and provides timely information about the people and economy of the United States. The Census Bureau website (http://www.census.gov) includes data on demographic characteristics (e.g., age, race, ethnicity and sex) of the population, family structure, educational and income level, housing status and the proportion of persons who live at or below the poverty line. Summaries of the most requested information for states and counties are provided, as well as analytical reports on population changes, age, race, family structure and apportionment. State- and county-specific data are easily accessible and links to other web sites with census information are included. For this report, 2019 population estimates are used unless otherwise noted.

Guidelines to Interpretation of the Data

Decisions about how to allocate limited resources for prevention and care services depend, in part, on appropriate interpretation of epidemiological data. The following guidelines are intended to facilitate proper interpretation of the tables and figures presented in this profile.

The data has certain limitations. This report will not specifically differentiate, unless indicated, whether an individual is or is not at the stage of AIDS for HIV infections. The first AIDS case reported in North Dakota was diagnosed in 1984. Reporting of HIV-infected persons in North Dakota began in 1984. HIV surveillance reports may not be representative of all infected persons, because not all infected persons have been tested or reported. Data are collected for the entire state of North Dakota, which include data for patients who are diagnosed for the first time in North Dakota, as well as patients who move to North Dakota after they have been diagnosed. Data do not necessarily consider emigration out of North Dakota, although efforts are made to account for this in HIV prevalence data. State and county of diagnosis do not change even if a person moves to a different county or out of state.

The data presented in this profile only includes cases that met the current case definition documented by CSTE and CDC. This report does not include cases that have not been diagnosed by laboratory methods or a healthcare provider.

Rates have been calculated for 12-month periods per 100,000 persons. The denominator for calculating rates, unless otherwise noted, is based on 2019 population estimates from the U.S. Bureau of Census. The numerator is the number of cases reported during the 12-month period. This number is divided by the population estimate and multiplied by 100,000. For example, race-specific rates are the number of cases reported for a racial/ethnic group during the preceding 12-month period divided by the estimated population for that race/ethnicity and multiplied by 100,000. Those categorized as white are white, alone. Hispanic ethnicity can be of any race. If a race is not included in a graph, it is due to small numbers.

The data presented in this report are current as of time of publication. However, the data may be variable as new information is received and may differ from other reports.

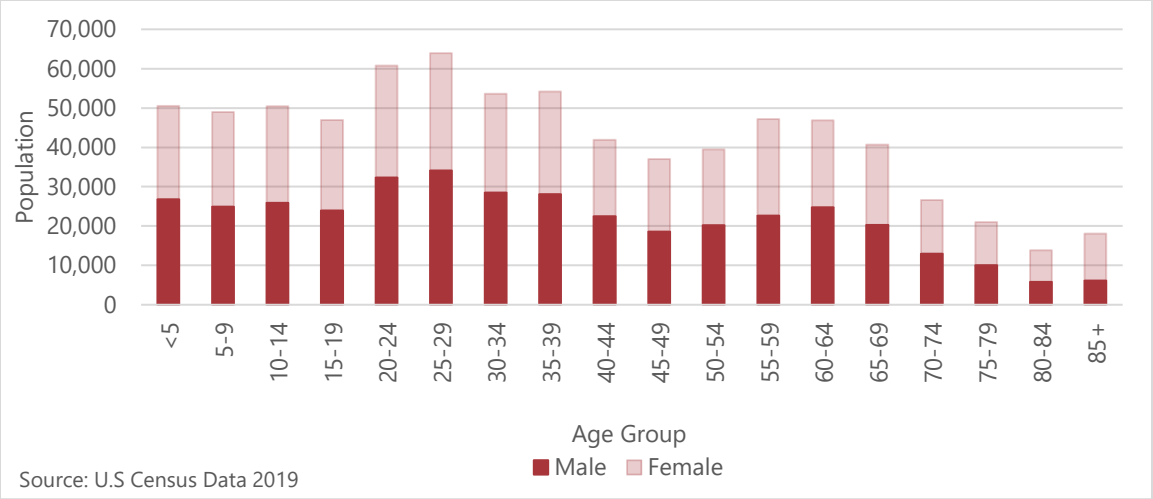
North Dakota Demographics

North Dakota is a rural state that covers 70,704 square miles and in 2019 had an estimated population of 762,062, according to the U.S. Census Bureau. North Dakota ranks 47th in the nation by population. It contains 53 incorporated counties and 357 cities. Nine cities have populations of more than 10,000, and 20 cities have populations of more than 2,500. County populations in North Dakota range from 750 to 181,923 people. The six counties along the eastern border with Minnesota account for more than one-third of the state's population.

Age and Gender Distribution

At the time of the most current U.S. Census estimates for gender and age (2019), North Dakota's population was 51 percent male and 49 percent female. More than one quarter (28.1%) of North Dakota's population is over the age of 55. Of the remaining 71.9 percent, adults ages 20 to 24 are disproportionately represented. Within that group, there are 13 percent more males than females. The most considerable discrepancy between males and females is between the ages of 25 and 29, where there are nearly 13.3 percent more males than females.

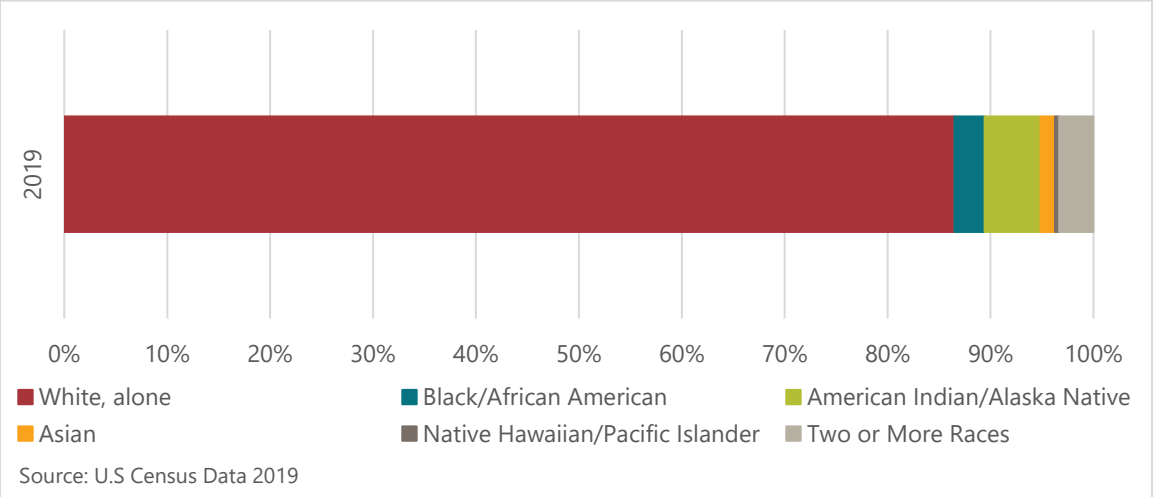
Figure 1. North Dakota population by age group and gender, 2019



Race Distribution

The majority of North Dakota's population (89.0%) reports white as their race. The largest minority group is American Indian and Alaskan Native, accounting for 6.9 percent, most of whom reside in Rolette and Sioux counties. The African American/Black population follows, accounting for an estimated 3.9 percent of the total population which increased from 2.9 percent the previous year.

Figure 2. North Dakota population by race, 2019



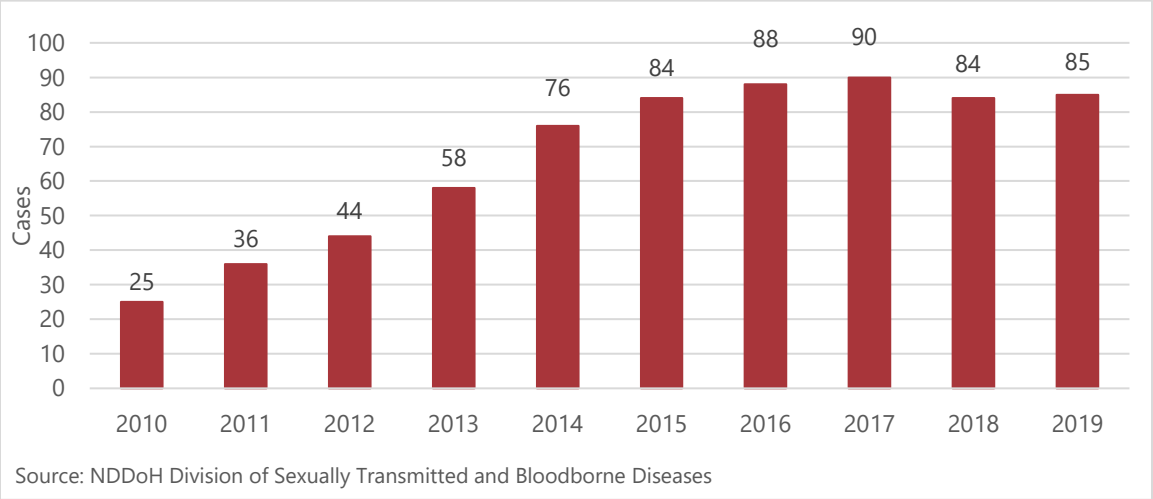
Social Characteristics

The social characteristics estimates of North Dakota include education, place of birth and poverty level. The majority (93.5%) of the population age 25 and older have graduated from high school. The percentage of the population born in a country other than the United States is 4.1 percent. Roughly ten percent (10.6%) of the North Dakota population live on wages below the federal poverty level. For a household of one, that equates to $12,490 in 2019.

Human Immunodeficiency Virus (HIV)

In 2019, there were 85 reported cases of HIV/AIDS. This number includes new diagnoses and individuals previously diagnosed who have moved to the state for the first time.

Figure 3. Number of HIV/AIDS cases reported by year, 2010-2019

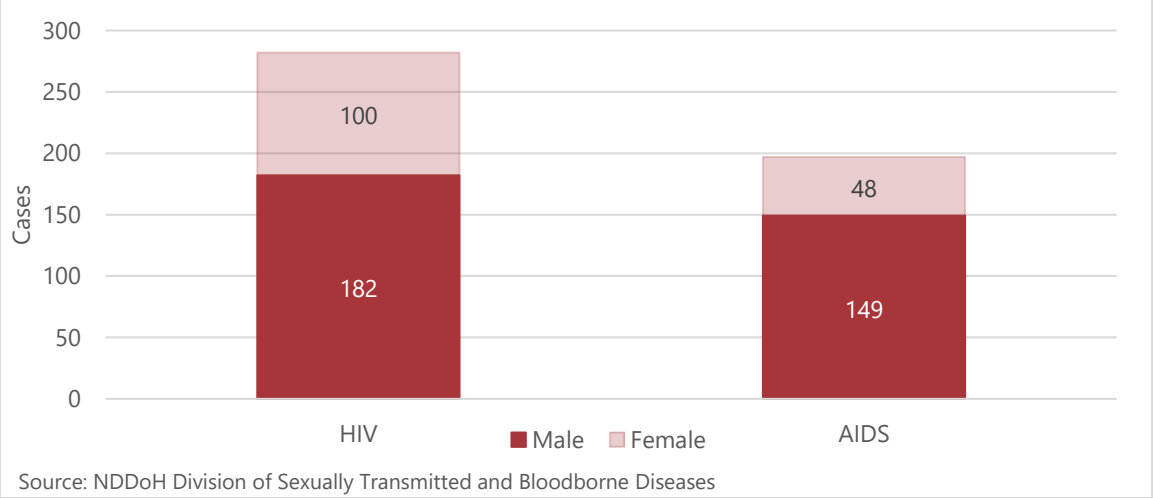


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

HIV Prevalence

There were 479 people with HIV/AIDS known to be living in North Dakota as of December 31, 2019. Of those, 282 are at the stage of HIV infection, and 197 have progressed to an AIDS diagnosis. The group is made up of 331 males and 148 females. Just over half (n=244) were diagnosed in North Dakota, with the rest moving to North Dakota sometime after their initial diagnosis.

Figure 4. Number of HIV/AIDS cases by infection status and gender, 2019

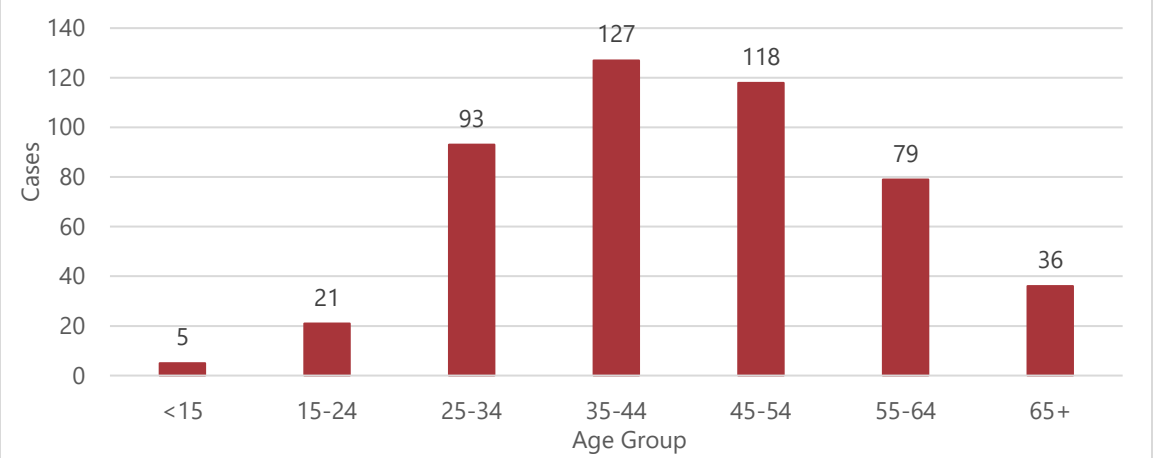


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Age

Of the prevalent cases of HIV in ND, the average age was 44 years old in 2019.

Figure 5. Number of prevalent HIV/AIDS cases by age, 2019

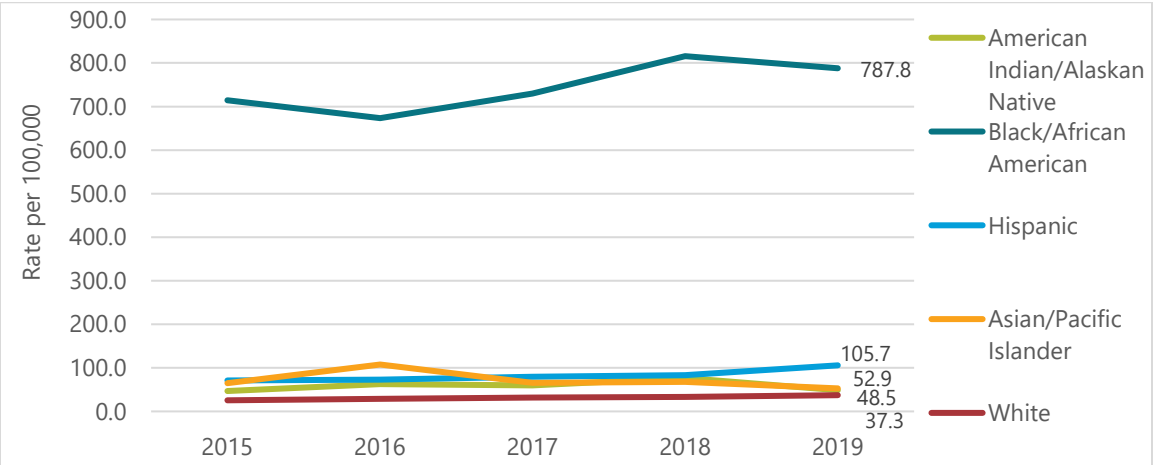


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Race

Both groups, those who identify as white and Hispanic, saw a slight increase in the rate of prevalent HIV/AIDS in 2019. Conversely, American Indian/Alaskan Native, Black/African American, and Asian/Pacific Islander North Dakotas reported a slight decrease in HIV/AIDS prevalence in 2019. Black/African American North Dakotans are 13 times more likely to be living with HIV/AIDS compared to all North Dakotans, with a case rate of 787.8 cases per 100,000.

Figure 6. Prevalent HIV/AIDS case rate per 100,000 persons in North Dakota by race group, 2015-2019



Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Perinatal Exposures

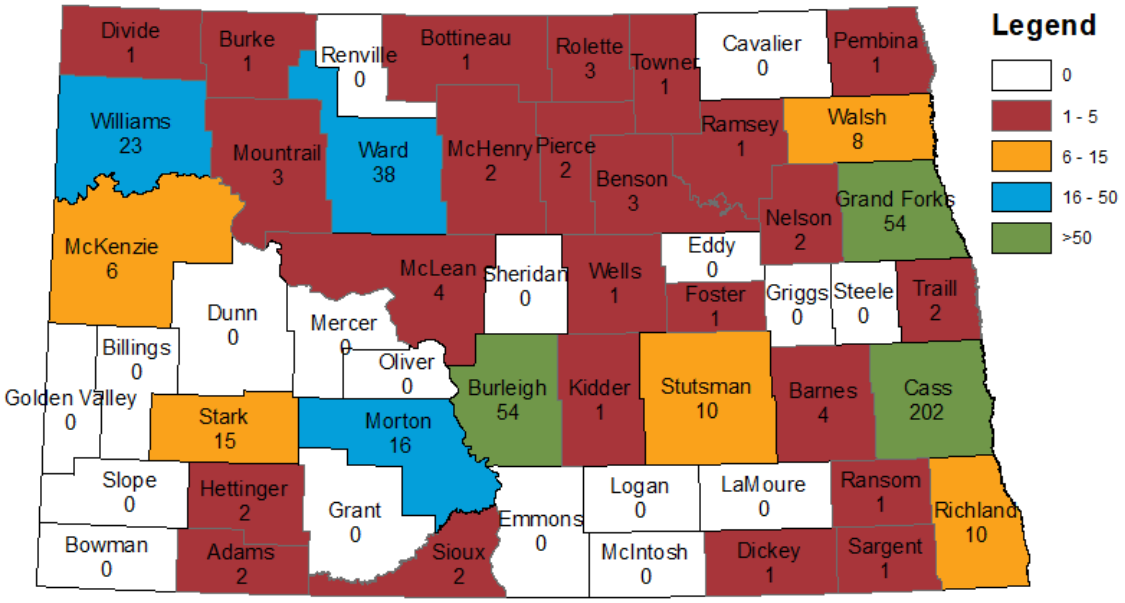
Perinatal HIV is the transmission of HIV from mother to child. Treatment of the mother during pregnancy and treatment of the infant after birth can minimize the risk of HIV transmission. The NDDoH follows up on the pregnancy status of all females of child-bearing age (14 to 49 years)

who are HIV positive. During 2019, there were ten infants born to mothers who are HIV positive. All infants were treated prophylactically with ART and are HIV negative.

Geography

There was at least one person known to be living with HIV in 35 of 53 counties as of December 31, 2019.

Figure 7. Currently living HIV/AIDS cases in ND by county, 2019



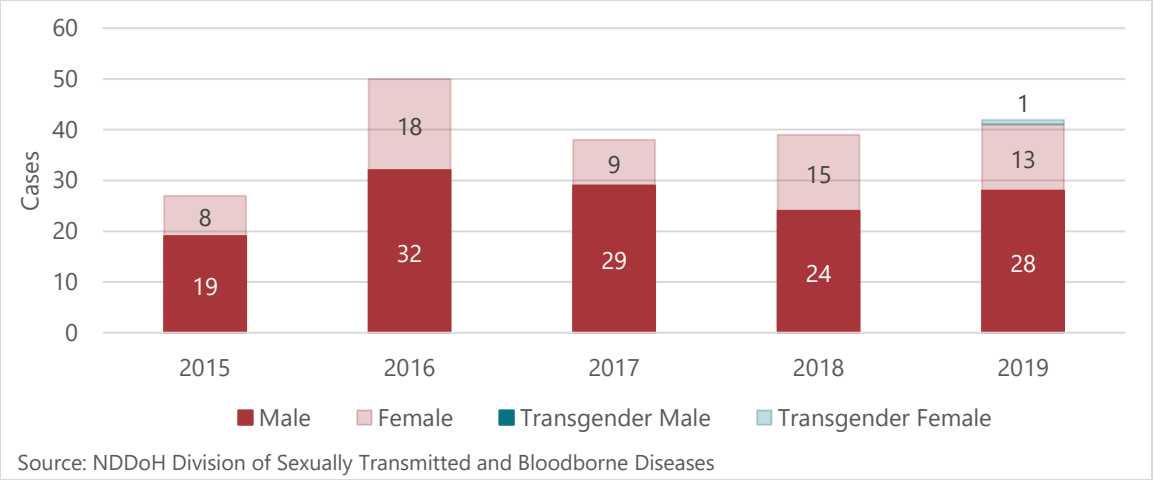
2019 HIV/AIDS Incidence

Incidence refers to cases newly diagnosed within the state during a given year. Persons diagnosed in another state, who then move to North Dakota, are not counted in an incidence report. North Dakota reported 42 new cases of HIV/AIDS in 2019.

Gender

Of the 42 incident cases, 28 (67%) were male,13 female, and 1 transgender female.

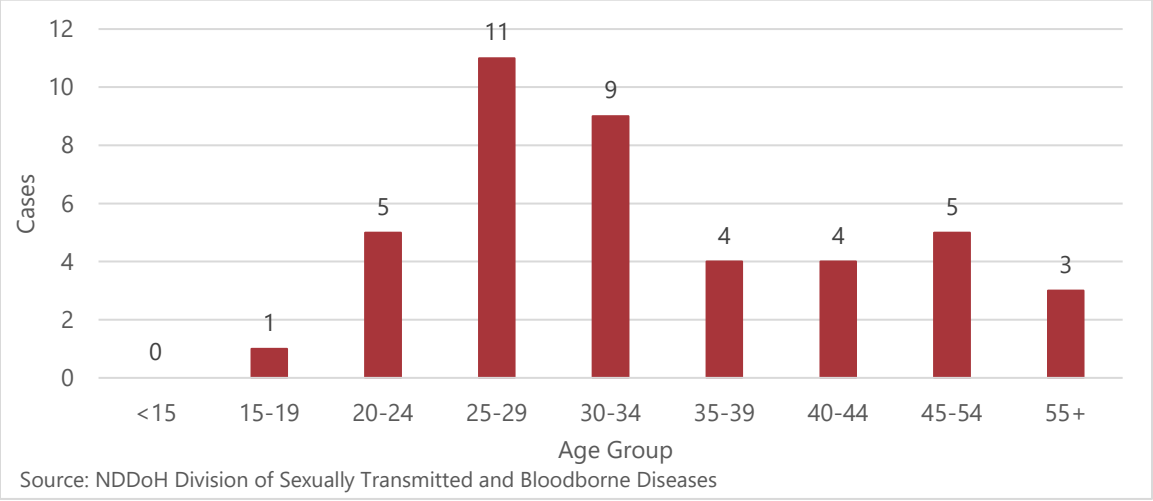
Figure 8. Gender of HIV/AIDS cases diagnosed in North Dakota, 2015-2019



Age

In 2019, the age range of newly diagnosed HIV cases was 19 to 61 years old, with a mean age of 34.

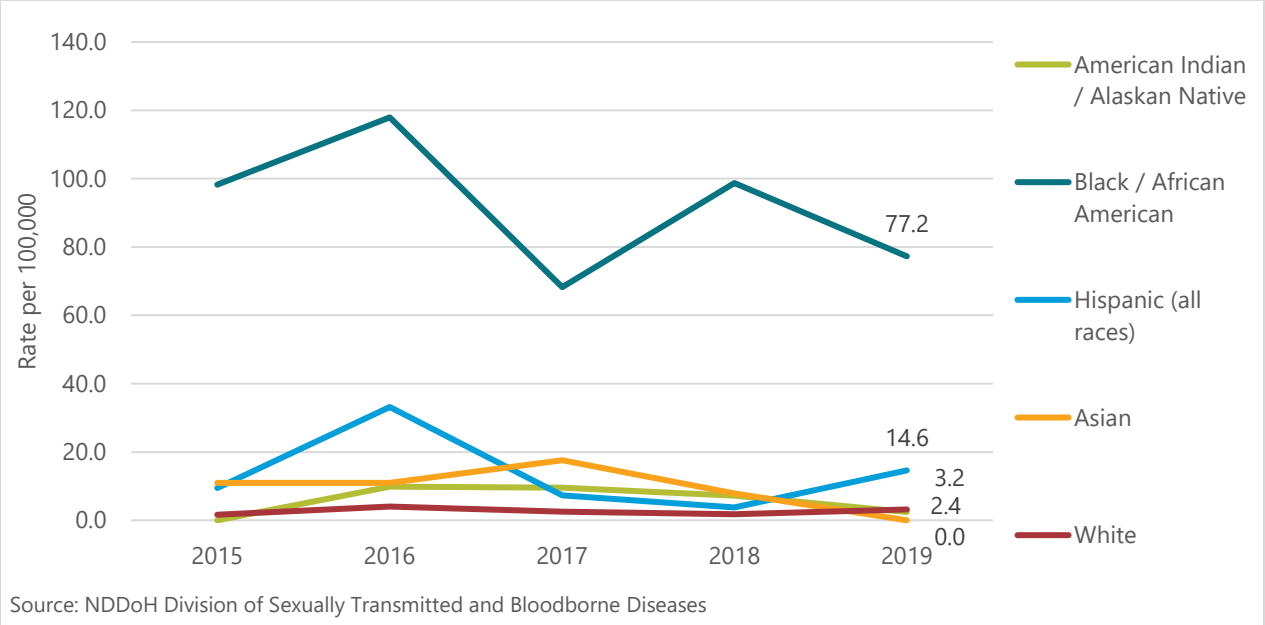
Figure 9. Newly reported HIV/AIDS cases in North Dakota by age group, 2019



Race

In 2019, White was the most common race reported for incident HIV cases. White Americans accounted for 21 of the cases, with a rate of 3.2 cases per 100,000. Black/African Americans had the second highest number of reported HIV cases with 20. However, due to North Dakota demographics, Black/African Americans reported an incidence rate of 77.2 per 100,000.

Figure 10. Newly reported HIV/AIDS cases rate per 100,000 persons in North Dakota by race group, 2015-2019

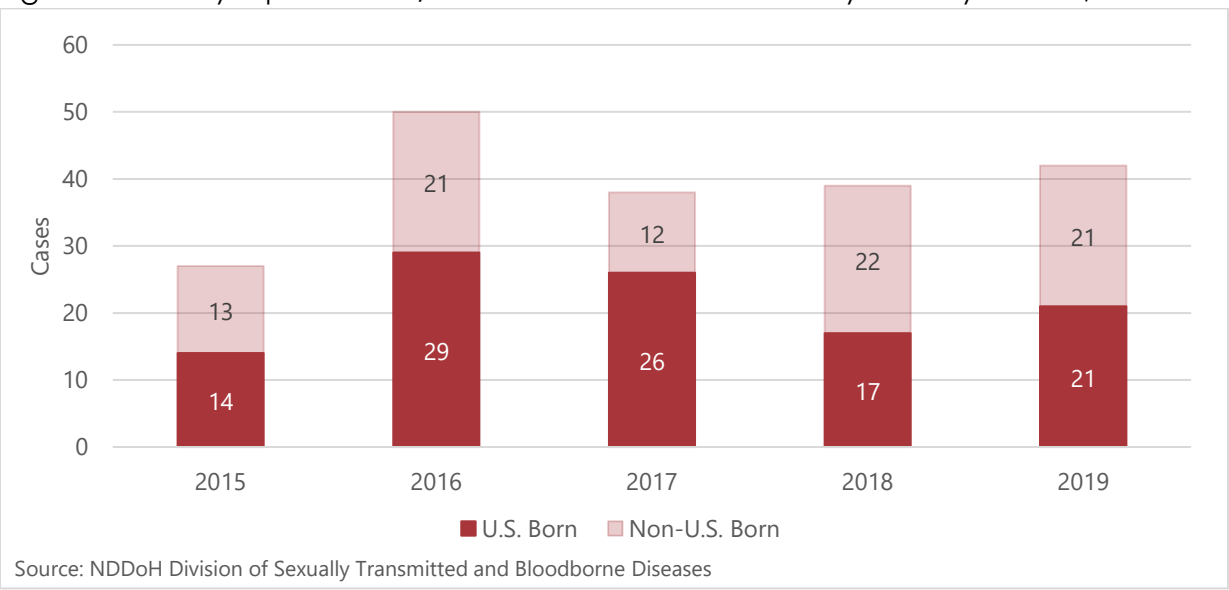


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Country of Birth

HIV incidence includes cases that are newly diagnosed in North Dakota. This can include persons that acquired their infection in a country outside the United States and then move directly to North Dakota. In 2019, 21 (50%) of the incident cases were non-U.S. born.

Figure 11. Newly reported HIV/AIDS cases in North Dakota by country of birth, 2015-2019

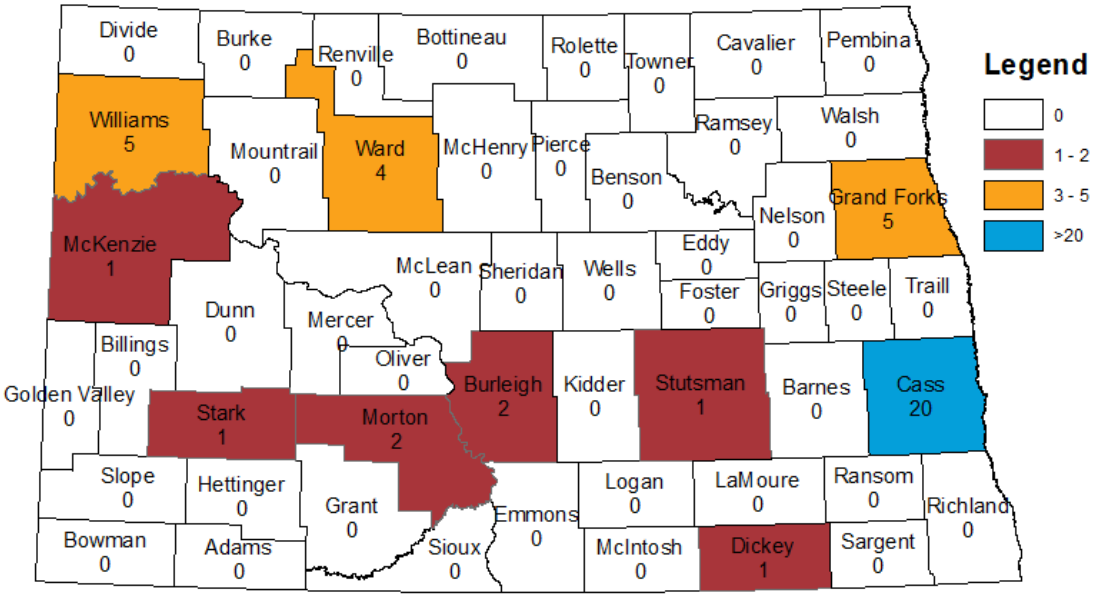


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Geography

In 2019, ten counties reported at least one new case of HIV with 48 percent of cases being from Cass County.

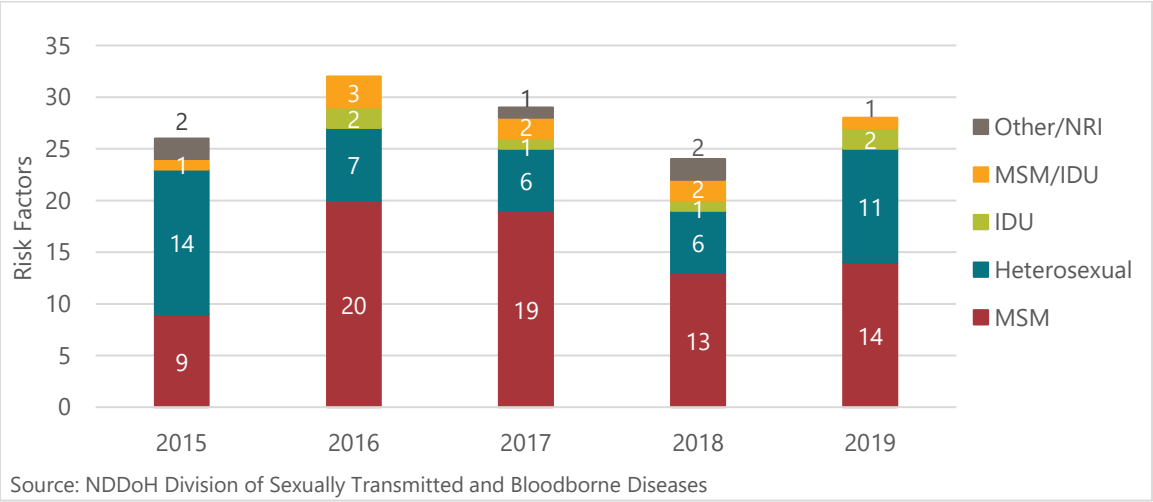
Figure 12. Newly diagnosed cases of HIV in North Dakota by county, 2019.



Risk of Infection

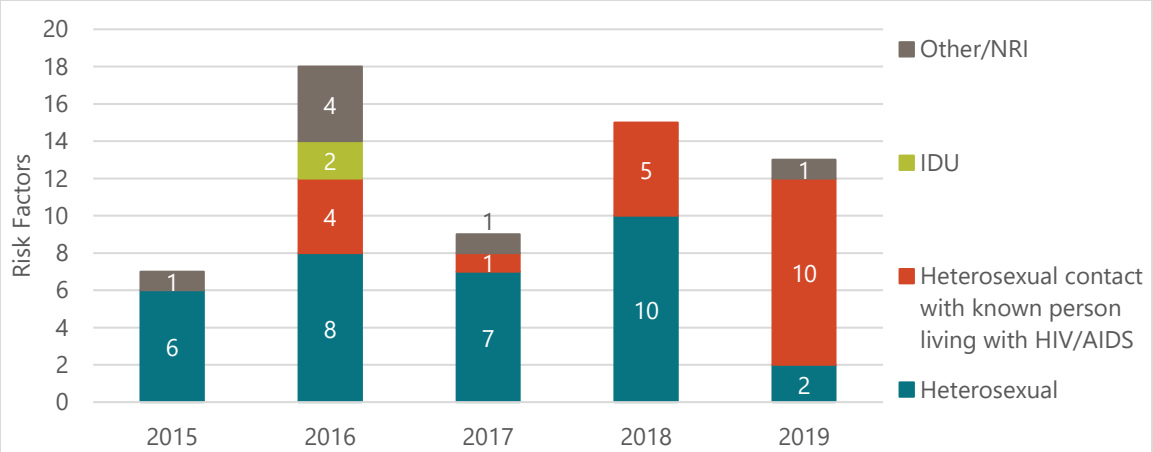
Nationally, HIV is most often reported among men who have sex with men (MSM). North Dakota risk data shows similar patterns between prevalent cases and incident cases among males from 2015 to 2019. Injection drug use (IDU) alone has been a risk factor for the past four years. In female cases in North Dakota, heterosexual contact remains to be the primary risk factor.

Figure 13. Risk factors reported by males newly diagnosed with HIV, 2015-2019



Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Figure 14. Risk factors reported by females newly diagnosed with HIV, 2015-2019



Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

HIV Care – Ryan White Part B Program

The North Dakota Ryan White Program Part B is federally funded by Health Resources Services Organization (HRSA) and administered by the NDDoH. To be eligible for the program, an individual must be living with HIV, a North Dakota resident, and have a gross household income at or below 400 percent of the federal poverty level (2019 FPL: $49,960 for a household of one), or up to 500 percent if receiving ADAP insurance premium assistance.
The Ryan White Part B program funds case management and core and support services, enabling individuals to get linked to and stay in medical care and treatment.

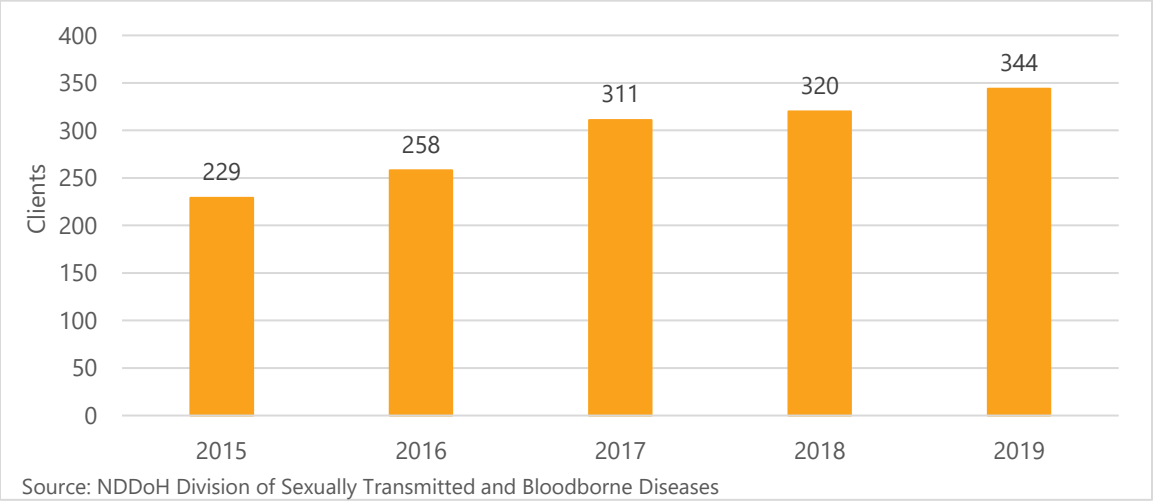
Core services reimbursed through Ryan White Part B include: HIV-related outpatient ambulatory medical care, medication and insurance premium assistance through AIDS Drug Assistance Program (ADAP), oral health care, outpatient mental health services, substance abuse outpatient care, and medical case management.

Support services reimbursed include non-medical case management, emergency financial assistance (rent and utilities), medical transportation, and nutritional supplements.

The Ryan White Part B program is a safety net program and a payer of last resort where services are reimbursed when another payer is not available. Thus, clients eligible for other assistance programs, including Medicaid, Medicare, and private commercial insurance, must seek coverage through those programs first. Ryan White will wrap around those services and cover the remaining costs of treatment and HIV-related medical care.

As of December 31, 2019, of the 479 estimated persons living with HIV in North Dakota, 267 (56%) were enrolled in the ND Ryan White program. The total number of clients enrolled in the Ryan White program in 2019 was 344. This is an increase of eight percent from 2018.

Figure 15. Total number of enrolled Ryan White clients served in North Dakota, 2015-2019

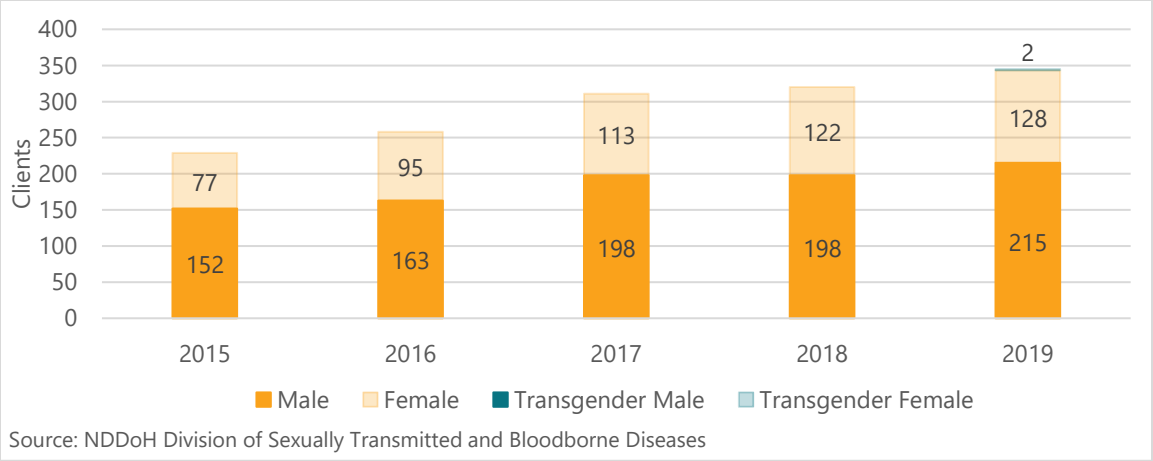


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Gender

Of the 344 enrolled clients, 215 (63%) are male, 128 (37%) are female, and two clients were transgender females. While the majority of clients are male, the proportion of females has increased since 2015 by 77 percent and males by 52 percent.

Figure 16. ND Ryan White clients by gender, 2015-2019

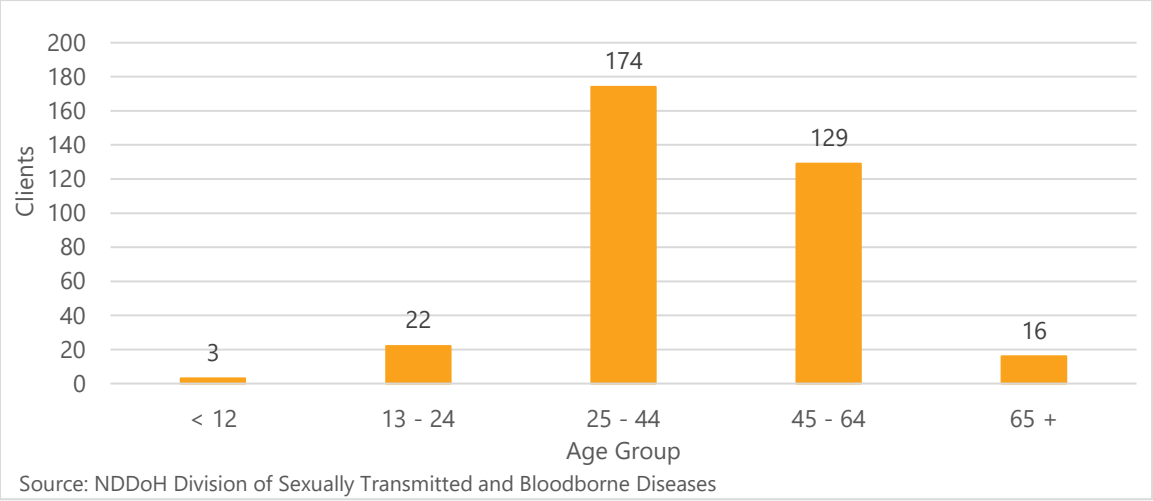


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Age

Most clients (51%) are between the ages of 25 and 44, followed by the 45 – 64 age group (38%). The average age is 42.

Figure 17. ND Ryan White clients by age group, 2019

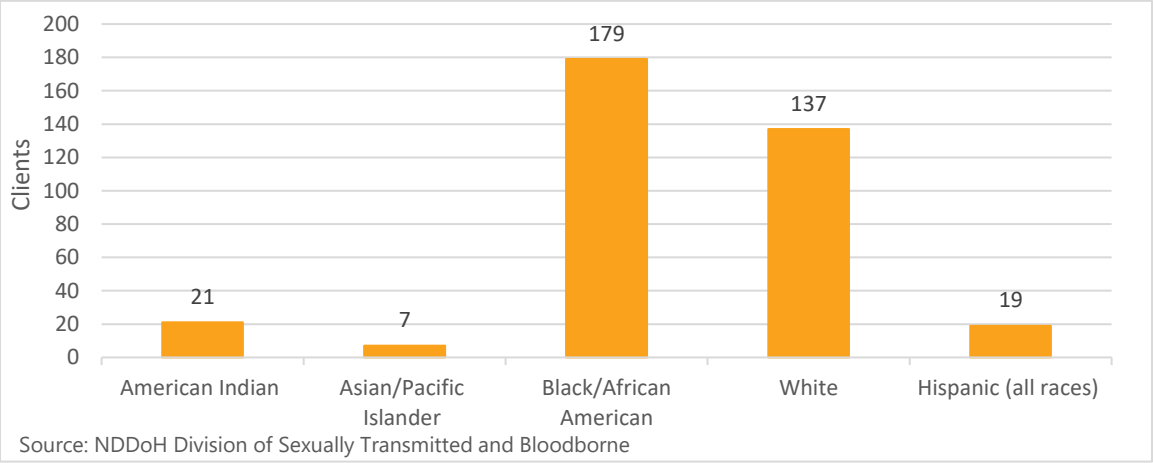


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Race

Of the 344 enrolled clients, 179 (52%) are Black/African American, 137 clients (40%) are White and 21 (6%) are American Indian. Nineteen clients (6%) identified as Hispanic or Latino.

Figure 18. ND Ryan White clients by race and ethnicity, 2019



Source: NDDoH Division of Sexually Transmitted and Bloodborne

Geography

Ryan White case management and services reimbursement are provided through fourteen contracted agencies: 10 local public health departments (including three remote locations) and one community action agency.

The eastern region—including the most populated city in the state, Fargo—serves most (63%) of the Ryan White clients in North Dakota. The central region —including the state capital, Bismarck—served 20 percent of the enrolled clients.

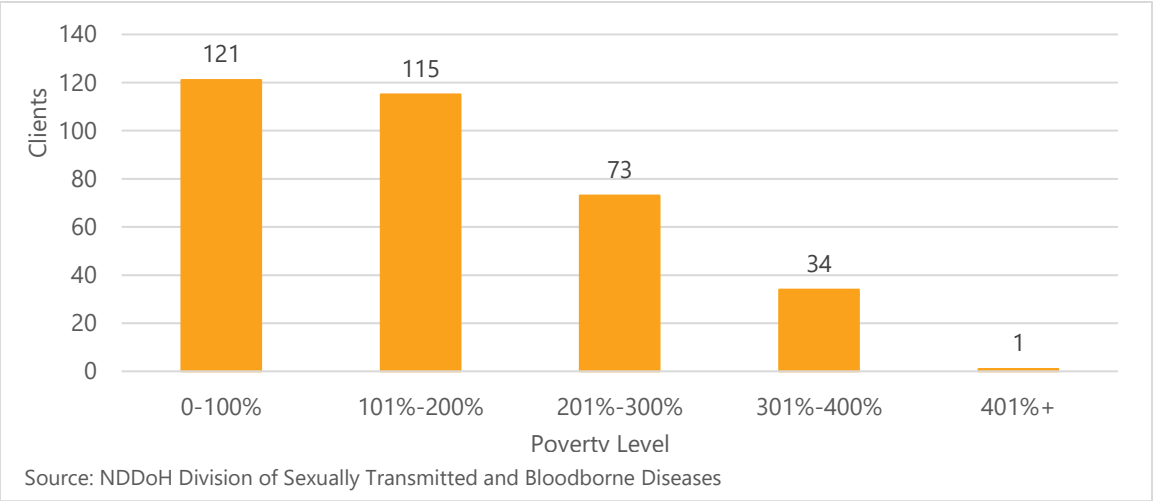
Table 2. ND Ryan White clients enrolled by region and case management agency, 2019

Case Management Agency	Number of Clients (n=)	Proportion (%)
Western Region	**29**	**8**
SW District Health Unit – Dickinson	18	5
Upper Missouri District Health Units (including 3 remote locations)	11	3
Southcentral Region	**68**	**20**
Bismarck Burleigh Public Health - Bismarck	47	14
Central Valley Health Unit – Jamestown	11	3
Custer Health – Mandan	10	3
Northcentral Region	**32**	**9**
First District Health Unit – Minot	31	9
Lake Region District Health - Devils Lake	1	0
Eastern Region	**215**	**63**
Fargo Cass Public Health – Fargo	171	49
Grand Forks Public Health - Grand Forks	39	11
Richland County Health – Wahpeton	1	1
Total Number of Clients Enrolled	**344**	**100**

Poverty Level

The majority of Ryan White clients (35%) have an annual household income below the federal poverty level, and an additional 33 percent are between 101 and 200 percent of the poverty level.

Figure 19. ND Ryan White clients by federal poverty level, 2019



Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

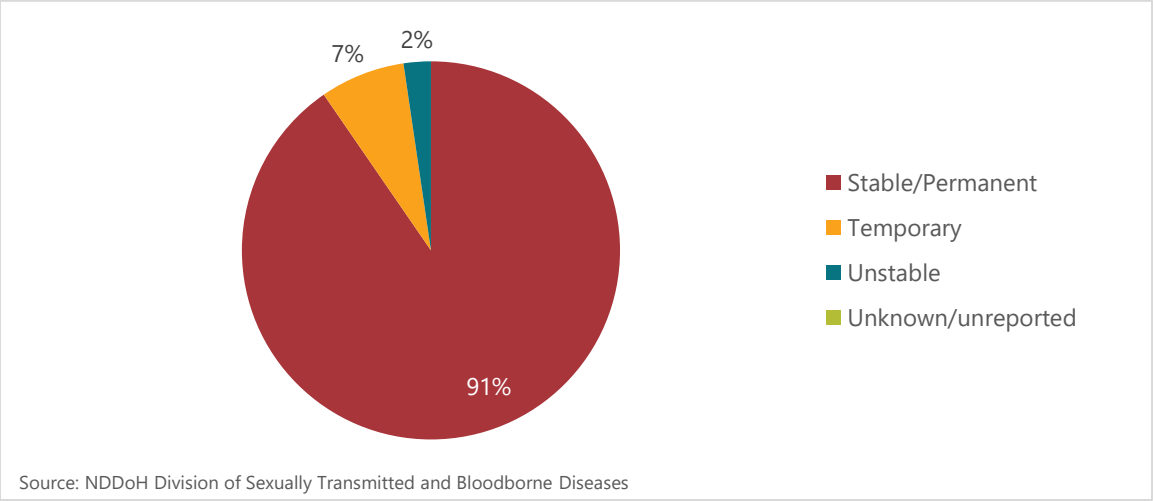
Housing Status

Access to affordable housing is essential for engagement and retention in medical care and treatment. Clients who lack stable housing are more likely to fall out of care and have interruptions in treatment, leading to treatment resistance and ultimately poor medical outcomes.

Of the 344 enrolled clients, 311 (91%) reported having stable housing. Twenty-five clients (7%) who reported temporary housing relied on transitional housing for homeless people, staying with friends or family, staying in institutions such as hospitals, substance use or mental health treatment facilities, correctional facilities, or staying in a hotel/motel. Eight clients (2%) reported having unstable housing or being homeless.

Even though most clients report stable housing, many still rely on rental assistance from Department of Housing and Urban Development (HUD), Housing Opportunities for Persons Living with HIV (HOPWA), emergency assistance through the Ryan White program, and other housing assistance programs.

Figure 20. Proportion of ND Ryan White clients by housing status, 2019



Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Insurance Status

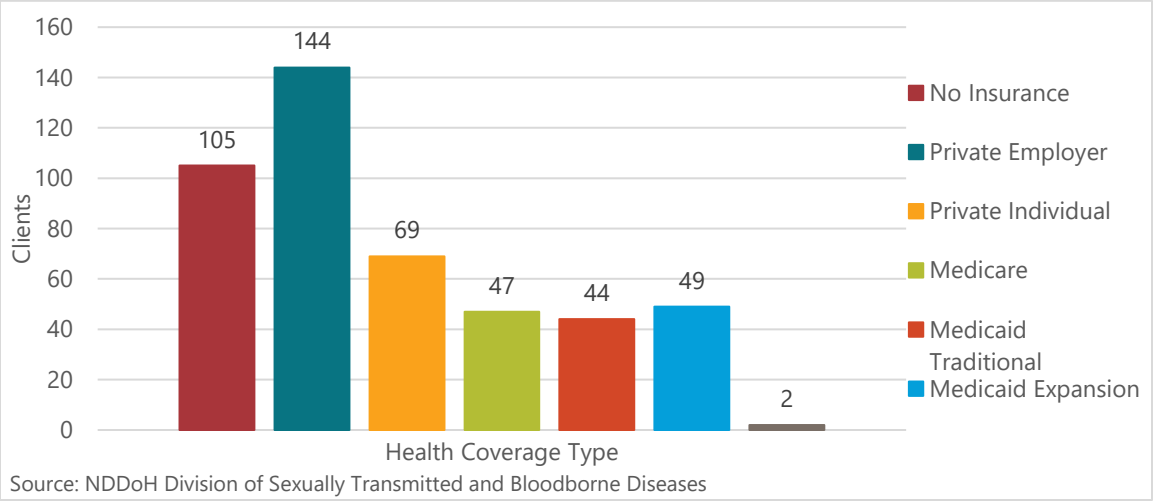
Having health coverage is essential for persons living with HIV to cover medical care and treatment costs. The Ryan White program is not considered health insurance. However, the program provides a safety net for uninsured clients by covering the cost of HIV-related medical care and medications and helps clients enroll in eligible coverage. The program also wraps around insurance coverage for those insured and covers insurance deductibles, copays, and select insurance premiums.

Ryan White clients may experience frequent gaps or changes in health coverage. One hundred-five clients (31%) were uninsured at some point in the year.

In 2019, 105 clients (42%) were enrolled in private employer sponsored insurance. Sixty-nine clients (20%) were enrolled in individual private insurance, usually obtained through the Marketplace with Ryan White insurance premium assistance. Ninety-three clients were enrolled in Medicaid (27%) and forty-seven (14%) in Medicare.

Reasons for being uninsured include transitioning between jobs, not being offered employer-based coverage if employed; if unemployed, not qualifying for Medicaid due to the five-year ban for permanent residents or having a temporary visa; or not following-through with requirements to apply for coverage within a specific time-frame.

Figure 21. ND Ryan White clients by health coverage type, 2019



Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Services

The North Dakota Ryan White Program Part B reimburses core medical services consisting of AIDS Drug Assistance Program (ADAP), HIV related outpatient medical care, dental care, vision care, outpatient mental health, substance abuse services, and medical case management. The reimbursed support services include non-medical case management, emergency assistance, medical transportation, and nutritional supplements.

Since the implementation of the Affordable Care Act in 2014, persons living with HIV were no longer barred from purchasing insurance due to a pre-existing condition. In addition, North Dakota expanded Medicaid coverage to include those with income up to 139 percent of the FPL. With more insured clients, Ryan White program expenses for medications and medical care decreased, and program eligibility was expanded from 300 percent of the poverty level to 400 percent. Additionally, more funds were available for other core and support services such as dental care and emergency assistance.

In 2019, the most utilized services continued to be non-medical and medical case management, ADAP, ambulatory/outpatient medical care, and emergency assistance for rent.

Table 3. ND Ryan White Part B services by cost and number of clients served, 2019

Ryan White Part B Service	Cost	Clients Served
Case Management (non-medical)	$101,787.65	321
Ambulatory/Outpatient Medical Care	$79,592.18	106
Emergency Assistance: Rent	$73,374.09	74
Medical Case Management	$34,470.00	267
Dental Care	$22,554.61	41
Emergency Assistance: Utilities	$17,902.83	42
Transportation	$7,483.45	45
Vision Care	$5,992.53	26

Ryan White Part B Service	Cost	Clients Served
Mental Health	$1,867.32	6
Nutritional Supplements	$863.71	4
Emergency Assistance: Miscellaneous	$520.42	4
Total	**$346,246.49**	**355***

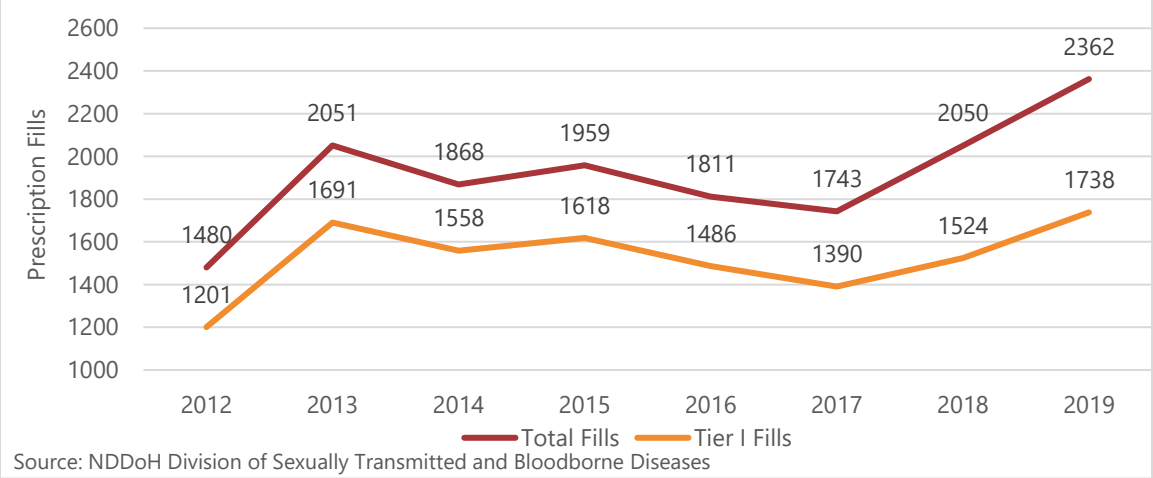
*Unduplicated

ADAP (AIDS Drug Assistance Program)

ADAP provides medication assistance to uninsured clients and insurance assistance to those with health coverage. Insurance assistance covers medication copays and insurance premiums for private insurance and Medicare Part D (drug coverage).

The graph below shows the number of monthly prescriptions fills for calendar years 2015 through 2019. The number of fills decreased from 2015 to 2017 due to clients enrolling in health coverage through the Marketplace, clients qualifying for expanded Medicaid and transitioning from combinations of drugs to single tablet regimens. An additional reason for the decrease in prescription fills was the transition to the new Medicaid's Managed Information System (MMIS) in 2015, which limited copay reimbursement. The graph below shows all fills and Tier I fills, which are antiretroviral medications for the treatment of HIV.

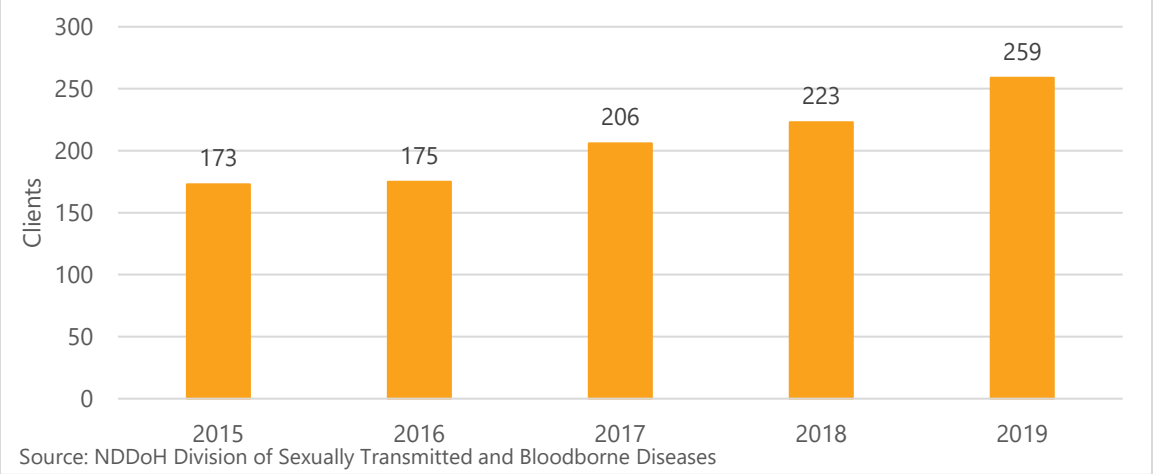
Figure 22. ND ADAP medication fills, 2012-2019



Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

In 2018, the ADAP formulary was opened to include all medications with exception of certain categories. In 2019, changes to MMIS allowed all copays to be reimbursed. Both of these changes, in addition to an increasing number of clients each year, contributed to an increase in medication fills since 2017.

Figure 23. Number of clients who recieived ADAP mediation assistance in ND, 2015-2019



Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Of the 344 enrolled clients, 259 (75%) received medication assistance through ADAP. Of those, 124 (48%) received full pay medication assistance through ADAP only; 203 clients (78%) received drug copay assistance.

Table 4. ND ADAP medication assistance, 2019

Type of Assistance	Clients Served	Total Cost	Cost/Client
Medication (full pay)	124	$1,101,999.06	$8,887.09
Copay	203	$351,762.81	$1,732.82
Total	**259***	**$1,453,761.84**	**$5,612.98**

*Unduplicated

The cost per uninsured client for medication assistance, not considering insurance premium cost or drug rebates, is five times higher than the cost of copay assistance. Due to the high cost per client for medication assistance, clients are required to enroll in eligible insurance and may receive premium assistance for select insurance plans.

Clients on Medicare that need additional coverage for outpatient medical care can enroll in Medicare Supplemental insurance and receive premium assistance through ADAP.

Sixty-three clients (18% of the enrolled clients) received premium assistance in 2019.

Table 5. ND ADAP Insurance Premium Assistance, 2019

Premium Assistance	Clients Served	Total Cost	Cost/Client
Private Insurance	47	$166,367.19	$3,539.73
Medicare Part D	13	$5,758.60	$442.97
Medicare Supplemental Private Insurance	13	$31,922.25	$2,455.56
Total	**63***	**$204,210.39**	**$3,190.79**

*Unduplicated

HIV Care Continuum

The HIV care continuum is a model that outlines the steps of HIV medical care from the initial diagnosis to achieving the goal of viral suppression, and it indicates the proportion of individuals living with HIV who are engaged at each stage. The continuum has the following stages: diagnosis of HIV infection, linkage to care, retention in care, receipt of antiretroviral therapy and achievement of viral suppression. As various obstacles contribute to low engagement in HIV care and limit the effectiveness of efforts to improve health outcomes, the care continuum is used to identify gaps in HIV services and develop strategies to enhance engagement in care and outcomes for PLWH.

The CDC currently uses two different continuums. The HIV prevalence-based continuum shows steps of the continuum as a percentage of the total number, or the prevalence, of PLWH (persons who know and the estimated number of people who do not know their HIV status). The diagnosis-based continuum shows steps as a percentage of the number of PLWH who have been diagnosed. As a low-incidence state, North Dakota has adopted the diagnosis-based continuum.

The continuum steps below are for PLWH in North Dakota as of December 31, 2019. The measurement year is the calendar year 2019.

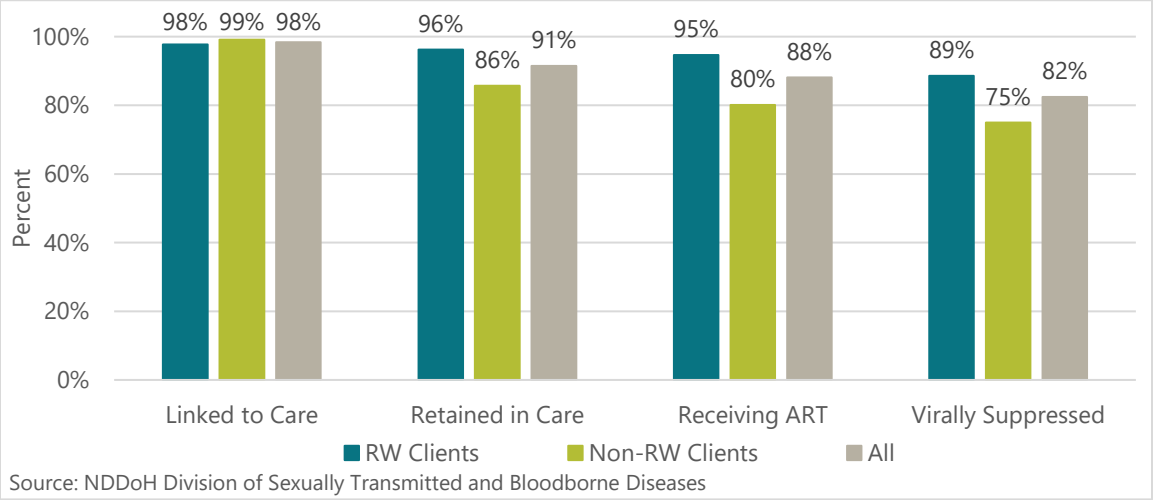
- HIV-diagnosed: number of prevalent HIV cases; prevalent cases include the number of newly diagnosed HIV cases in North Dakota, as well as previously diagnosed HIV cases who moved to the state and were living in North Dakota as of December 31, 2019
- Linked to care: the number of PLWH in the calendar year 2019 who had one or more viral load or CD4 tests after their diagnosis date
- Retained in care: the number of PLWH with one or more viral load or CD4 lab tests in 2019
- Antiretroviral use: number of PLWH who have a documented antiretroviral therapy (ART) prescription in the Maven surveillance system in 2019
- Viral load suppression: number of PLWH whose most recent HIV viral loads in 2019 were less than 200 copies/milliliter (mL).

Limitations: HIV is a reportable condition in North Dakota, and all viral load and CD4 lab tests are electronically reported to the NDDoH. However, the NDDoH does not perform medical chart reviews on PLWH to determine all HIV-related medical visits or antiretroviral use. The lack of review contributes to the possible underreporting of the number of individuals linked and retained in care and underreporting of individuals receiving ART. The number of individuals prescribed ART is determined by using Ryan White ADAP reimbursed claims data. Therefore, only individuals on RW and whose medications are reimbursed through ADAP or those that are virally suppressed are reported as receiving ART. This excludes individuals not on RW and those

on RW but whose medications are reimbursed through primary coverage (i.e., private insurance, Medicaid or Medicare).

As of December 31, 2019, there were 479 PLWH in North Dakota. Of those, 56 percent were enrolled in RW. Ninety-seven percent of all PLWH are linked to care and reported at least one medical visit since their diagnosis. Ninety-one percent were retained in care by having a medical visit in 2019. Eighty-eight percent were receiving ART, and 82 percent were virally suppressed.

Figure 24. HIV care continuum for PLWH in North Dakota, 2019.



Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

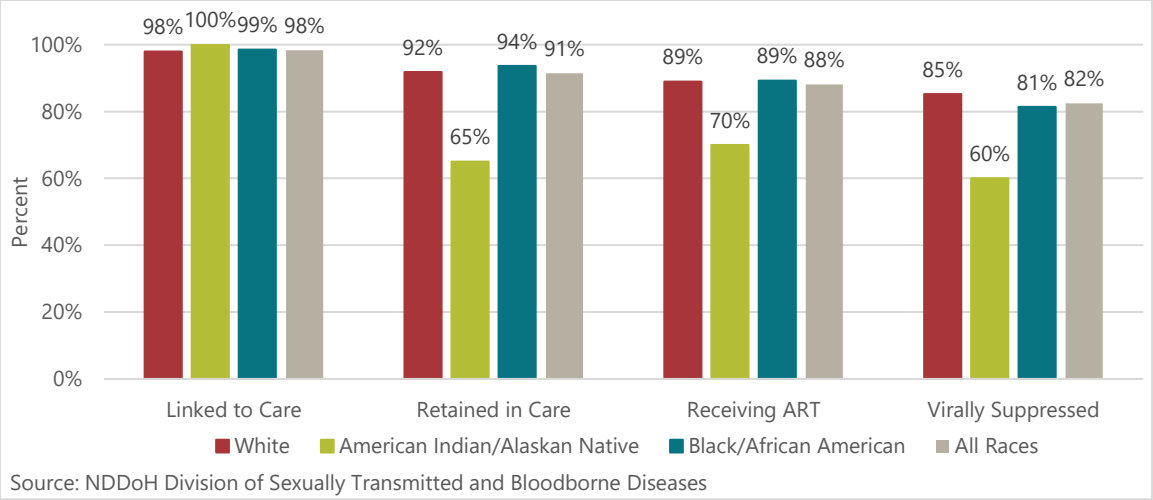
There is a significant disparity between the PLWH not enrolled in RW versus those enrolled (Figure 24). Ninety-nine percent of non-RW PLWH are linked to care, and 75 percent are virally suppressed, compared to 98 percent of RW clients who are linked to care and 89 percent who are virally suppressed.

Reaching viral load suppression is essential for several reasons. Viral suppression ensures that the health of the person is maintained or restored. It also minimizes or eliminates short- or long-term damage caused by the virus, and it lowers the risk of HIV transmission since there is a lower amount of virus in the blood and body fluids.

Disparities by Race

In 2018, American Indian/Alaskan Natives had the highest viral suppression rate of 88 percent. In 2019, American Indian/Alaskan Natives reported the lowest viral suppression rate with a decline to 60 percent virally suppressed, similar to 2017. However, this population has the lowest denominator of 20 PLWHI and can widely differ due to the law of small numbers. Whites have a denominator of 244, and Black/African Americans have a denominator of 204.

Figure 25. HIV care continuum by race in ND, 2019.

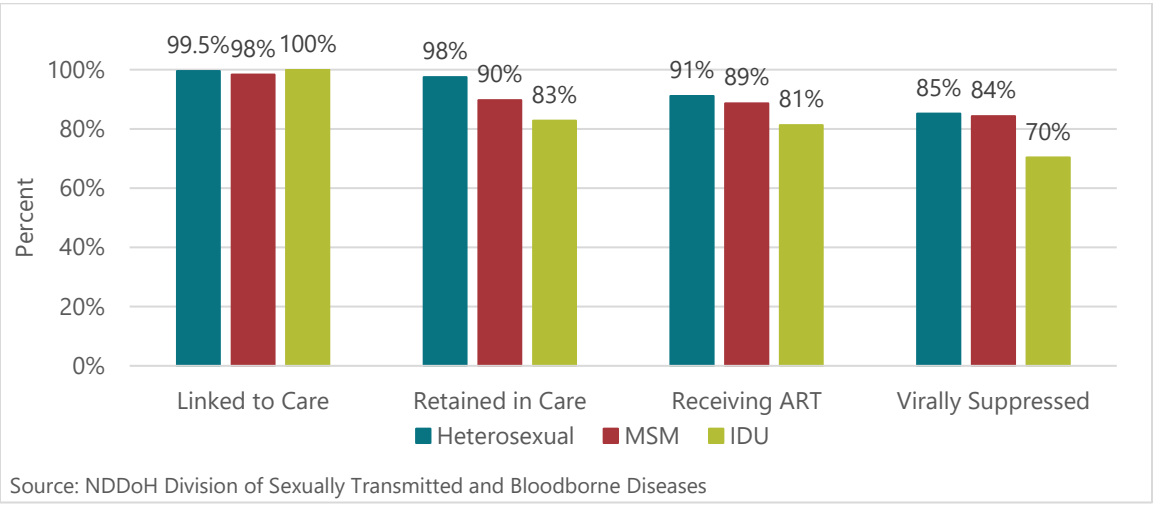


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Disparities by Risk

Persons who inject drugs have a lower viral suppression rate than those with other risk factors and have declined from 81 percent in 2018 to 70 percent in 2019.

Figure 26. HIV care continuum by risk factor in ND, 2019

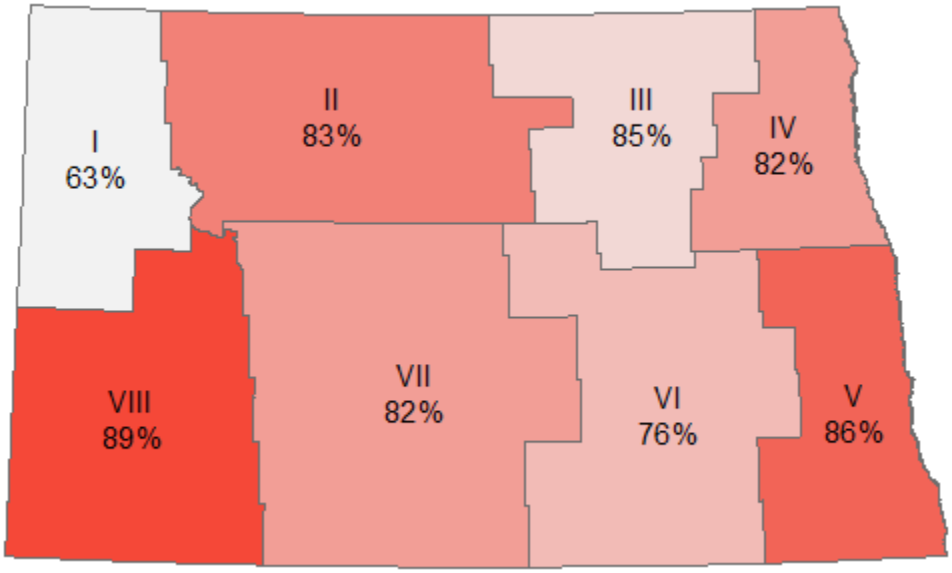


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Disparities by Geography

There are also disparities in achieving viral suppression by geographic region. Region 1 (Divide, Williams and McKenzie County) and Region 6 (Wells, Foster, Griggs, Stutsman, Barnes, Logan, LaMoure, McIntosh and Dickey County) have the lowest viral suppression rate of all PLWH. Both regions do not have an infectious disease specialty provider.

Figure 27. HIV care continuum by region in ND, 2019



The HIV Care Continuum provides a model to monitor progress toward the ND Integrated HIV and Viral Hepatitis Prevention and Care Plan's objectives that follow the National HIV/AIDS Strategy. The NDDoH continues to identify appropriate interventions to address the racial and socio-economic disparities and determine necessary re-engagement activities to improve outcomes at each stage of the care continuum. The NDDOH will reevaluate the existing services, such as partner services, additional testing for comorbidities, educational opportunities regarding care and treatment, and prevention with positives activities to assess their effectiveness and potential improvement areas.

Viral Hepatitis

Hepatitis is the general term that means "inflammation of the liver." Many factors can cause hepatitis, including toxins, drugs, viruses, parasites and other factors. There are several types of viral hepatitis, but hepatitis A (HAV), hepatitis B (HBV) and hepatitis C (HCV) are the most common types of viral hepatitis in the U.S. and North Dakota. HAV is transmitted via fecal-oral route. HBV and HCV will be discussed in this document.

Hepatitis B Virus (HBV)

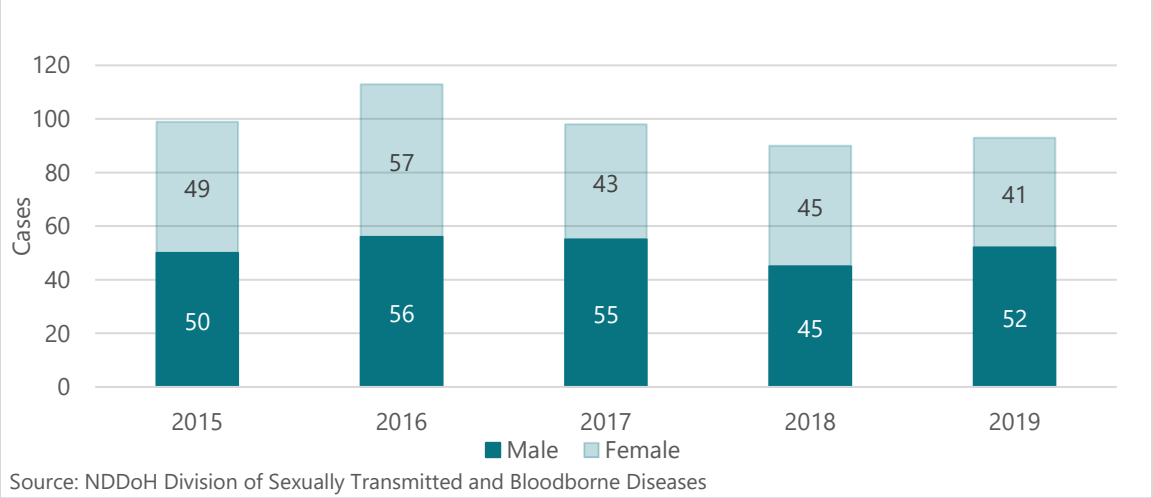
In 2019, 93 cases of HBV were reported in North Dakota as meeting the CDC case definition. Reported numbers include both confirmed and probable cases.

Acute HBV

One of the 93 cases was acute, meaning they were recently infected. The risk factor was unprotected sexual contact.

Gender

Figure 28. HBV cases by gender in ND, 2015-2019

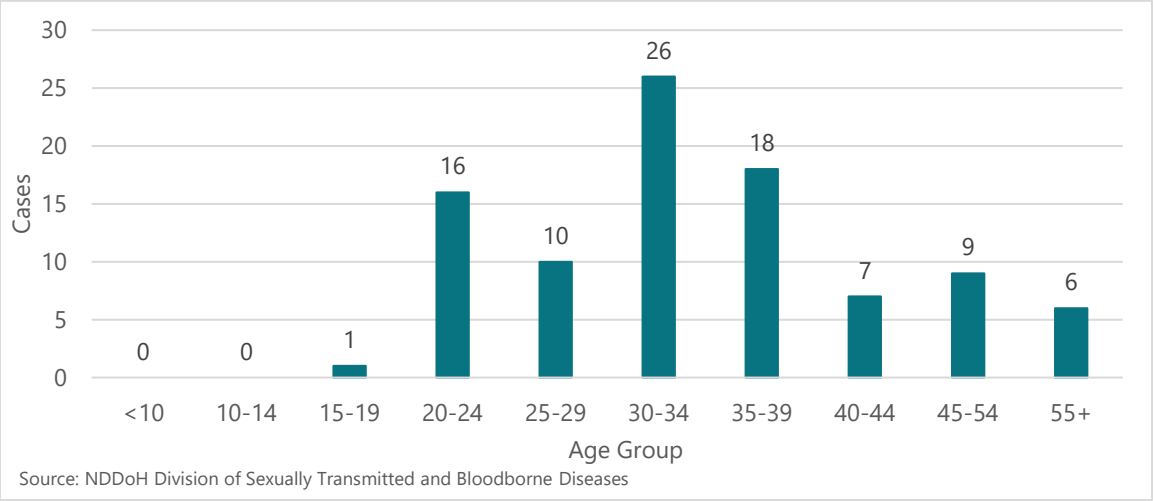


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Age

The age range of newly reported HBV cases in 2019 was 19 to 77 years old, with an average age of 35.

Figure 29. HBV cases by age in ND, 2019

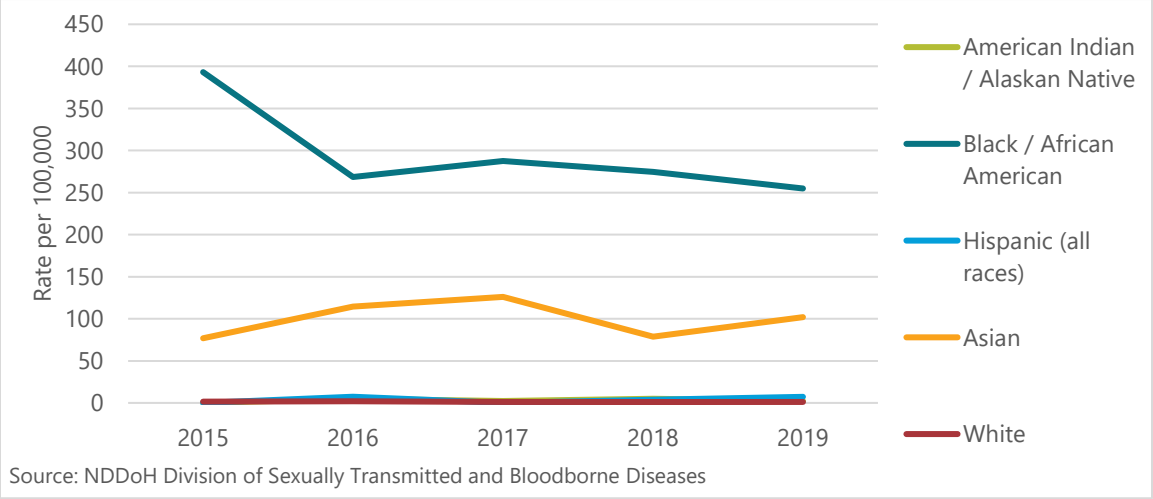


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Race

The majority of HBV cases are Black/African American or Asian and occur in persons born in countries where HBV is endemic. Since vaccination programs were started in the United States, the number of HBV infections among American-born individuals has been drastically reduced. Of the 92 cases with a known country of birth, 87 were born outside of the United States.

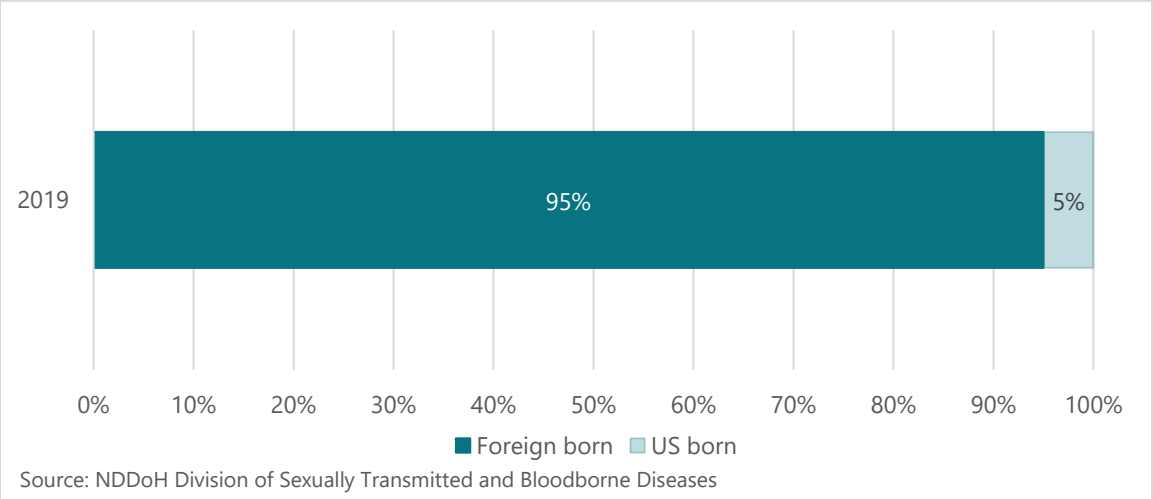
Figure 30. HBV rates by race in ND, 2015-2019



Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

	2015	2016	2017	2018	2019
American Indian/ Alaskan Native	0.00	4.80	2.40	4.80	2.42
Black/ African American	393.14	268.43	287.63	274.75	254.87
Hispanic (all races)	0.00	7.33	0.00	3.78	7.29
Asian	76.85	114.35	125.99	78.75	101.83
White	1.49	1.95	1.22	1.07	1.23

Figure 31. ND HBV cases by country of birth, 2019

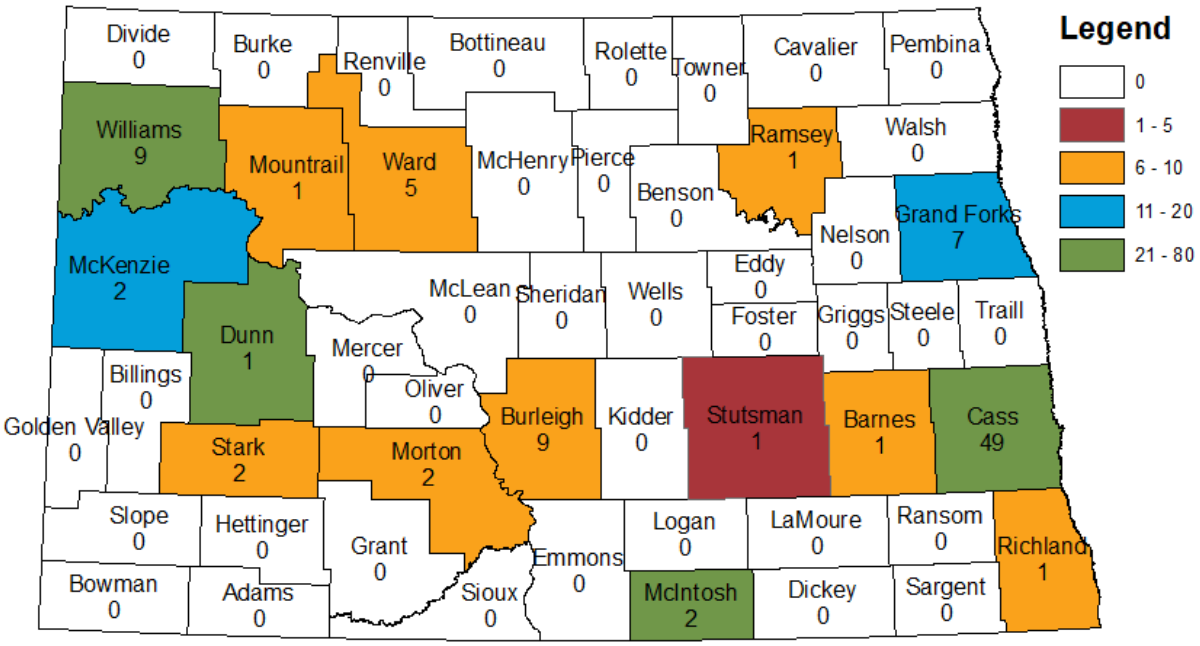


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Geography

In 2019, 15 counties reported at least one HBV case. The map below lists the number of cases reported by county. The shading indicates the rate of HBV per 100,000 persons by county.

Figure 32. ND HBV case counts and rates per 100,000 persons by county, 2019



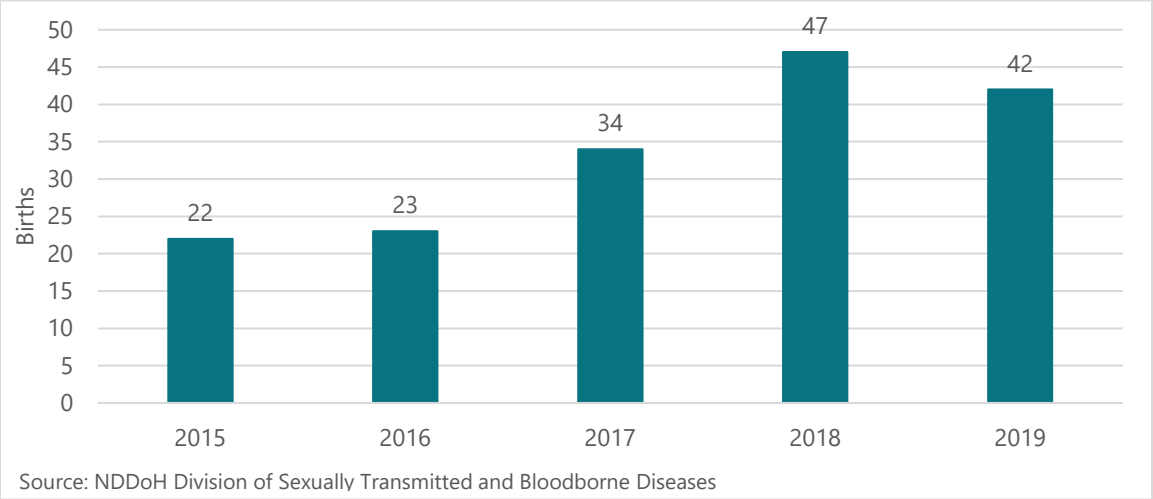
Perinatal Follow-Up

The North Dakota Perinatal Hepatitis B Prevention Program seeks to prevent perinatal hepatitis B infections by managing infants born to hepatitis B positive women. Case management includes contacting hepatitis B positive women before delivery to educate them regarding hepatitis B virus transmission and the importance of hepatitis B immune globulin (HBIG) and

hepatitis B vaccine for their infant. The perinatal hepatitis B coordinator then notifies the hospital where the woman is planning to deliver so they are prepared to administer HBIG and hepatitis B vaccine to the infant at birth.

After delivery, the perinatal hepatitis B coordinator works with the infant's healthcare provider to ensure that all three doses of vaccine are given and that hepatitis B serology testing is performed at nine months of age, 1-2 months after the last dose of vaccine. Hepatitis B serology testing is essential to determine if the infant gained protection from the vaccine and ensure they did not develop hepatitis B infection. In 2019, there were 44 births to hepatitis B positive women with all infants being negative for hepatitis B infection.

Figure 33. ND births to hepatitis B positive women, 2015-2019



Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Hepatitis C Virus (HCV)

In 2019, North Dakota received 937 reports of persons newly identified as having a positive laboratory result that indicates past or present HCV infection. This number includes cases that may be chronic, acute, resolved or unknown.

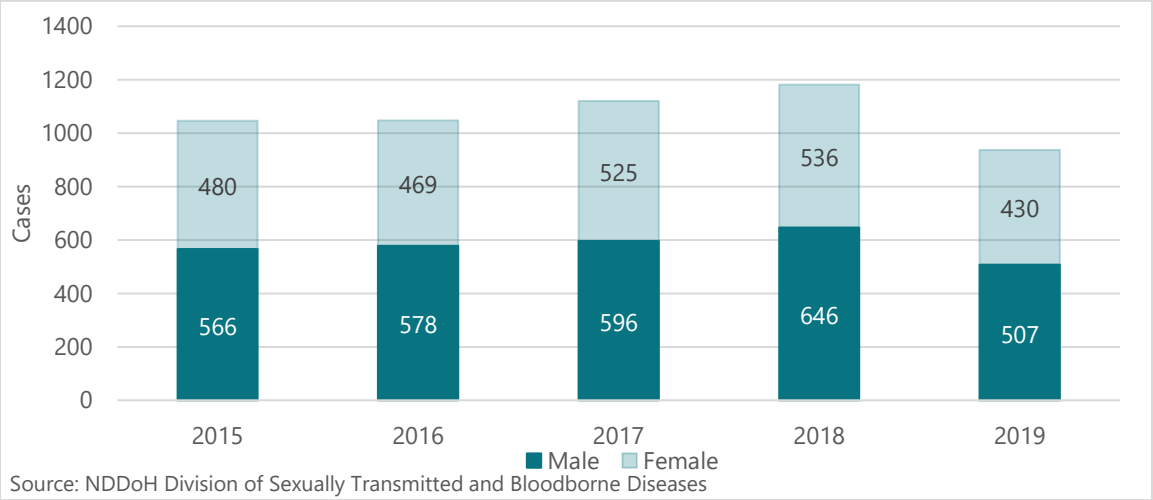
Acute HCV

Of the 937 cases, one was acute, indicating recent transmission. Acute hepatitis C is not often identified in North Dakota due to symptom history not being reported and/or testing occurring outside the acute phase.

Gender

Of the 937 HCV positive reports, 54 percent were male.

Figure 34. HCV cases by gender in ND, 2015-2019

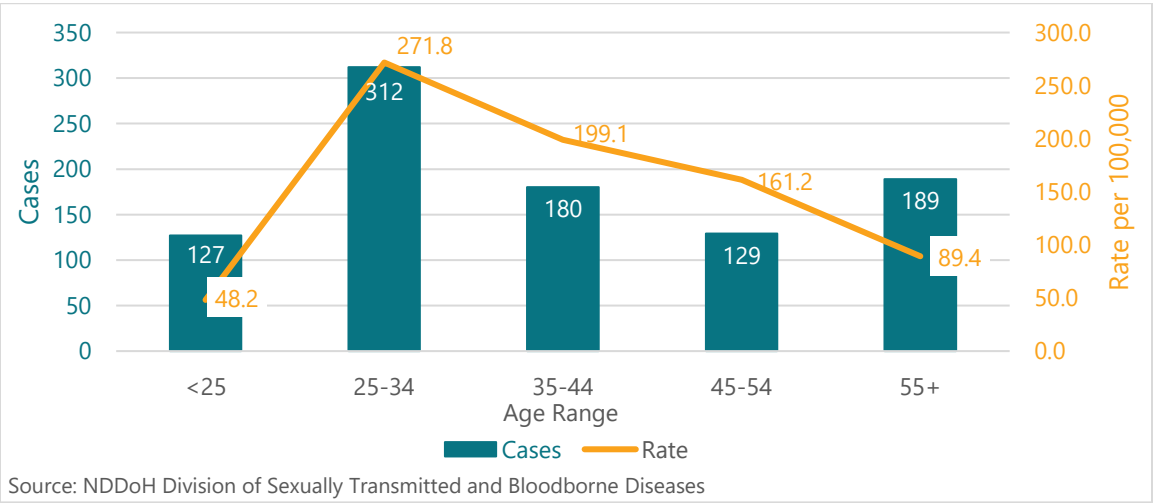


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Age

HCV infections in North Dakota are predominantly adult infections. The 25 to 34 age group has more than double the rate of infection compared to the 55+ population at 272 cases per 100,000. The average age of HCV cases in 2019 was 39 years.

Figure 35. HCV case count and rate by age, 2019

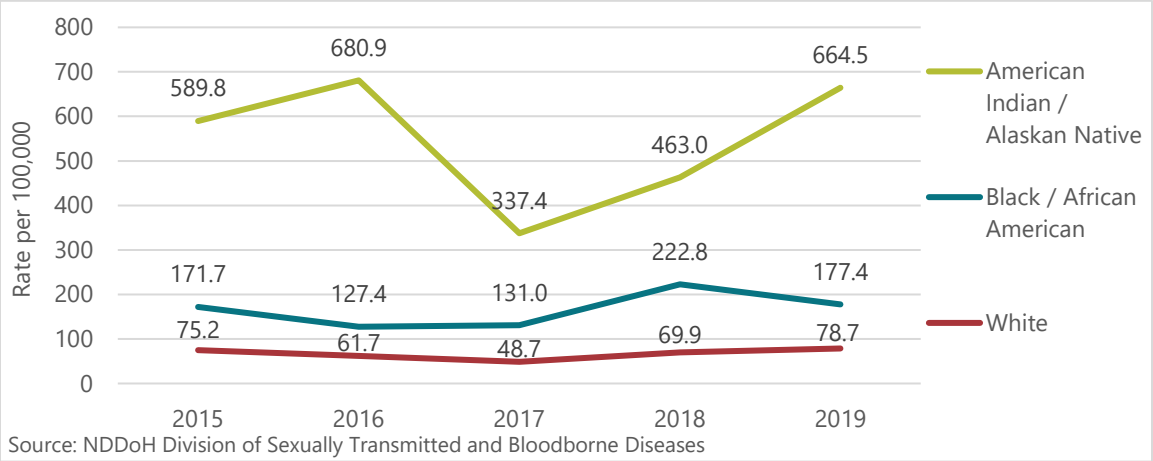


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Race

Of the 937 cases in 2019, 736 had a documented race. American Indian/Alaskan Natives had a case count of 281 and had the highest rate of 680.9 cases per 100,000 followed by Black/African Americans with a case count of 33, a rate of 127.4 cases per 100,000. There were 402 cases reported among whites, with a case rate of 61.7 cases per 100,000.

Figure 36. HCV incident case rate by race in North Dakota, 2015-2019

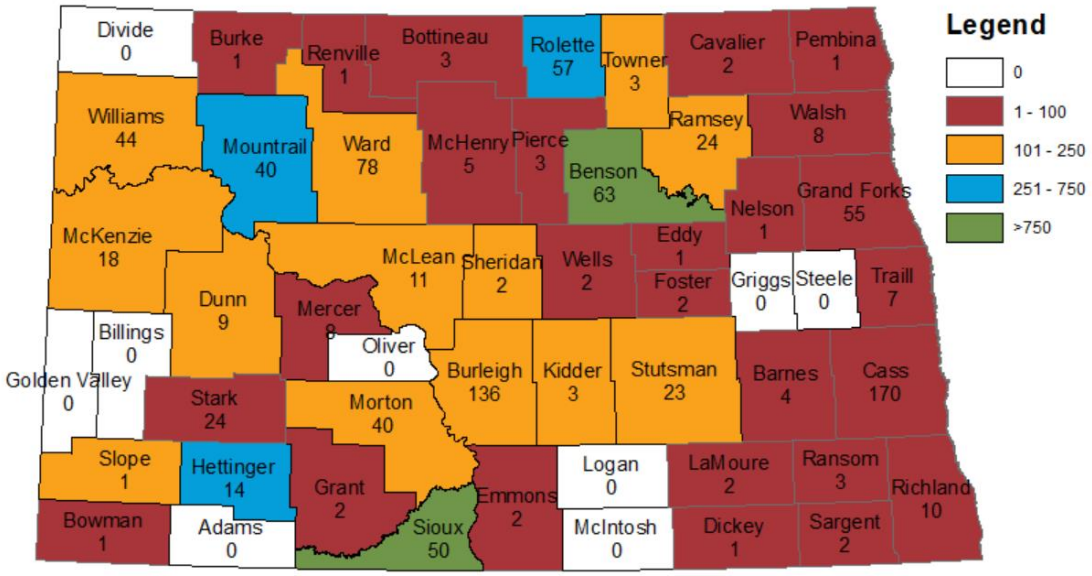


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Geography

In 2019, 44 counties reported at least one HCV case. The map below lists the number of reported cases by county. The shading indicates the rate of HCV per 100,000 persons by county. Sioux County had the highest rate with 1,182 cases per 100,000.

Figure 37. ND HCV case counts and rate per 100,000 by county, 2019



Hepatitis C Enhanced Surveillance

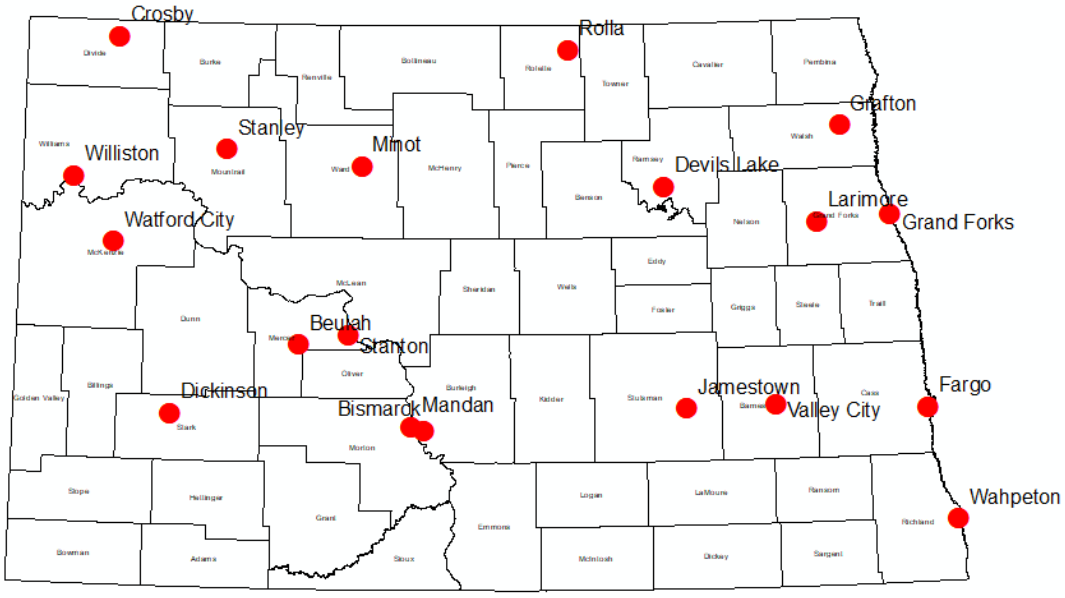
Enhanced surveillance activities started April 1, 2017. The goal of hepatitis C enhanced surveillance is to identify acute and chronic cases and understand transmission in North Dakota. Cases aged 35 and younger qualify for enhanced surveillance. Cases included in enhanced surveillance are interviewed and provided education. In 2018, 88 percent of cases interviewed reported injection drug use as a risk factor. The NDDoH discontinued the enhanced surveillance activities for hepatitis C in 2019.

HIV and HCV Counseling, Testing and Referral Program

The Counseling, Testing and Referral (CTR) Program offers HIV and HCV testing. Additionally, CTR cites provide HAV and HBV vaccinations to those at risk for HCV. This program aims to increase the accessibility of HIV and HCV health care services for populations at risk. CTR sites seek to inform clients of their HIV and HCV status, counsel and support risk reduction, and secure needed referrals (i.e., medical, social, prevention and partner services).

The NDDoH contracted with 22 free and confidential CTR sites in 2019. With satellite clinics and non-contracted partners, 37 facilities across North Dakota are offering CTR services (Figure 38). Please note in the figure below some cities have multiple CTR sites; thus, the number of dots does not equate to the total number of sites offering CTR services. Contracted CTR sites consist of nine family planning clinics, seven local public health units, four student health centers and two pregnancy/sexual health clinics. Note that six family planning clinics or local public health units also offer services at their county correctional facilities. CTR sites often have the advantages of providing comprehensive health care, including STI testing and treatment, additional vaccinations, primary health care, substance abuse referrals and many other services, and integrated HIV and HCV testing.

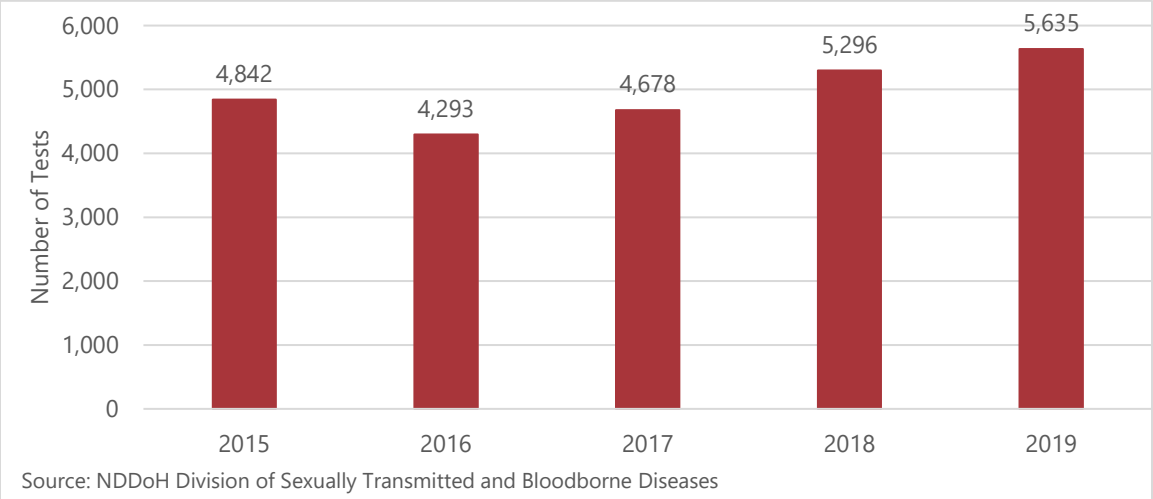
Figure 38. Location of CTR sites



HIV/AIDS Counseling, Testing and Referral Data

In 2019, CTR sites conducted 5,635 HIV tests, a 6.4 percent increase from 2018. There was one less contracted CTR site in 2019 compared to 2018.

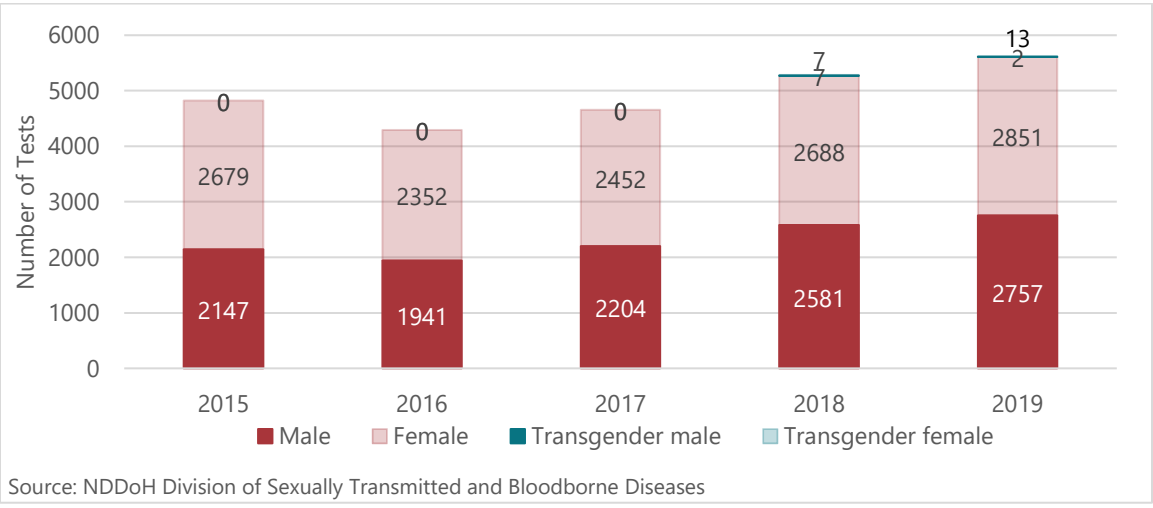
Figure 39. HIV testing conducted at ND CTR sites, 2015-2019



Gender Identity

Of the 5,635 tests, 2,757 (48.9%) were male and 2,851 (50.6%) were female. Only 16 HIV tests were performed among individuals identifying as transgender, including 13 among transgender females and two among transgender males. Eight individuals reported having a gender identity that is not male, female or transgender and three individuals refused to report their current gender identity. With a significant portion of CTR sites being family planning clinics, it is not unexpected to see more testing among females.

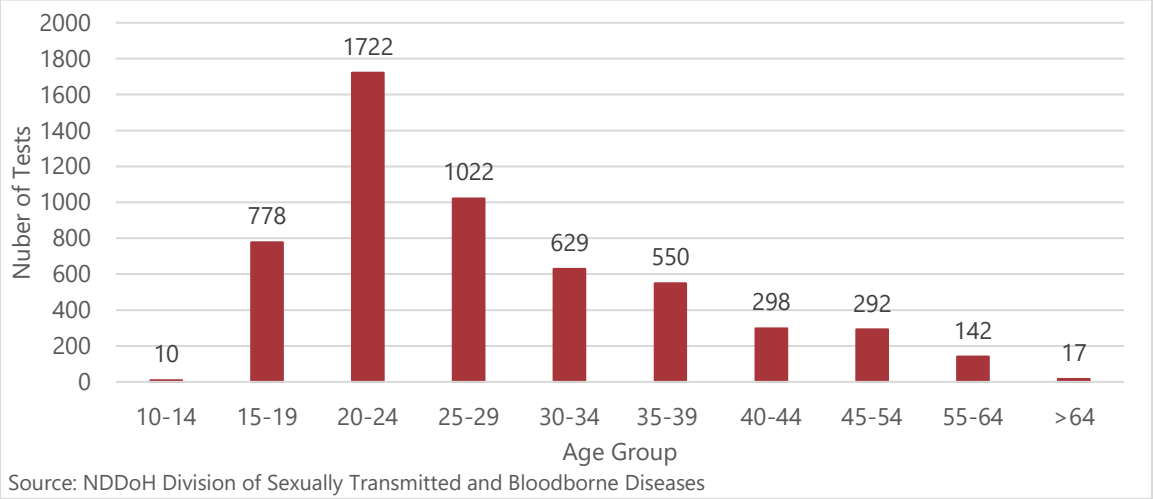
Figure 40. HIV testing conducted at ND CTR sites by gender, 2015-2019



Age

Almost half (48.6%) of clients tested for HIV were between 20 and 29. This is consistent with the same age groups with the highest number of incident cases of HIV in North Dakota.

Figure 41. HIV tests at ND CTR sites by age group, 2019

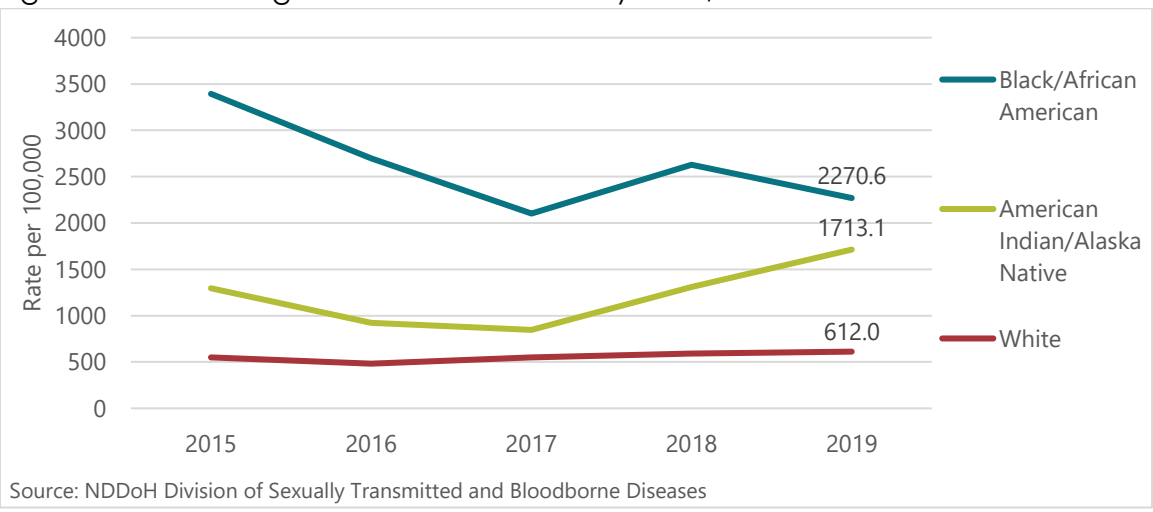


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Race

In 2019, North Dakota CTR sites tested 3,988 people identifying as white, 588 as Black/African Americans, 707 as American Indian/Alaskan Native and 101 as Asian. Testing rates and incident rates of HIV are highest among Black/African Americans. Although the HIV incidence rate for North Dakota is high among Black/African Americans from outside the U.S., only 66 (11.2%) Black/African Americans tested at CTR programs were known born outside the United States. Increased efforts must be made to ensure this target population is being tested in North Dakota.

Figure 42. HIV testing rates at ND CTR sites by race, 2015-2019

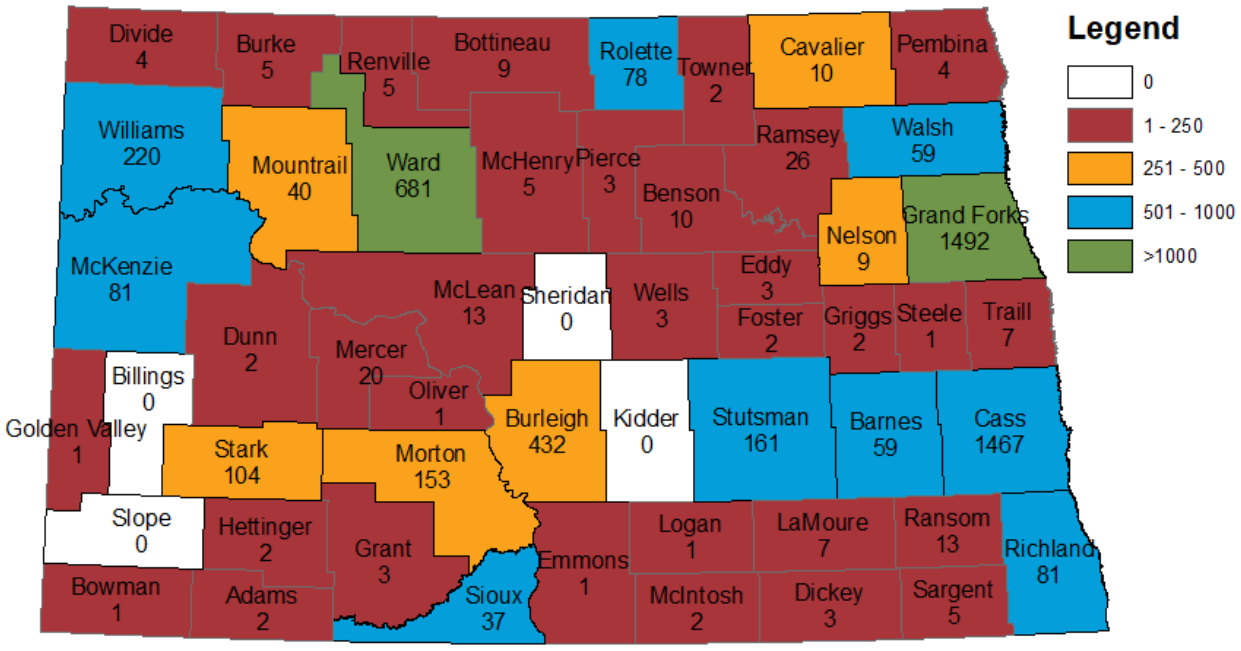


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Geography

Of the HIV tests performed at CTR sites in 2019, 94.7 percent of those tested were ND residents. The remaining individuals resided in 25 different states. In North Dakota, residents in 49 of 53 counties were reported to have received an HIV test.

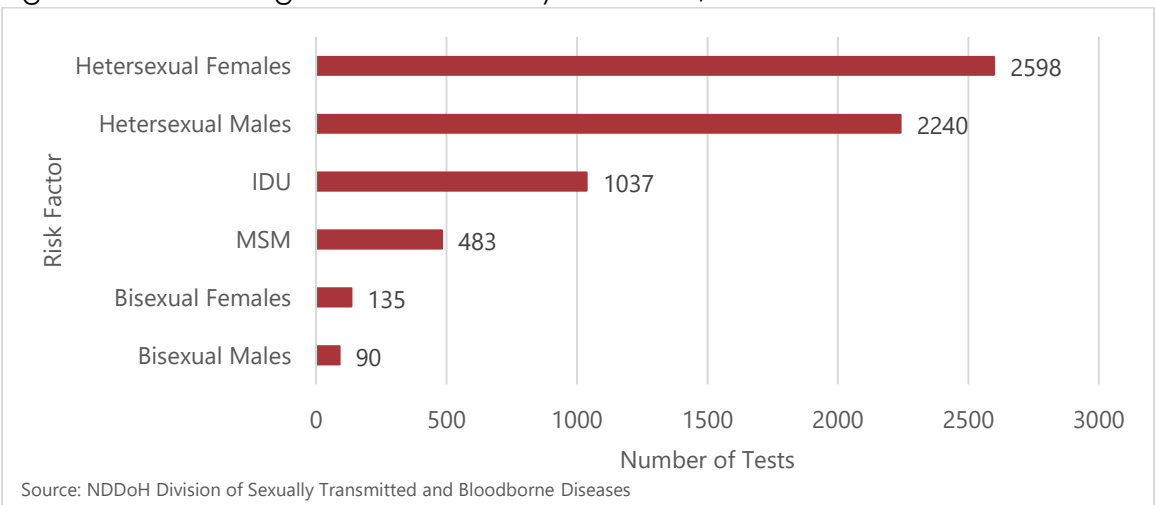
Figure 43. Number of HIV tests and rates per 100,000 by ND county, 2019



Risk Factors

In 2019, 18.4 percent of clients identify as a person who injects drugs (PWID) either currently or in the past. Of males tested at CTR sites, 17.5 percent identified as MSM. For those tested for HIV, 53 percent reported never using condoms or not that often in the previous 12 months and 15 percent had three or more partners in the past 60 days. Also, 20 percent reported having anonymous sex partners over the last 12 months.

Figure 44. HIV testing at ND CTR sites by risk factor, 2019



Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

HIV Positives Identified at CTR Sites

In 2018, 26 individuals were identified as being rapid HIV positive. Of those 26, four were confirmed as previously diagnosed, and nine were confirmed to be newly identified HIV cases. The rapid HIV test used at CTR sites had a 0.21 percent false positive rate in 2019 with 13, clients were identified to have a false positive rapid HIV test. Of the new cases identified in 2019, seven were male, and two were females. Five cases identified as Black/African American, three as white, and one did not specify a race. Of male cases, 71.4 percent identified as MSM. One HIV case was identified among an individual who previously injected drugs. Three of the newly identified cases had heard of HIV PrEP but had not been taken PrEP at the time of their diagnosis or in the 12 months prior.

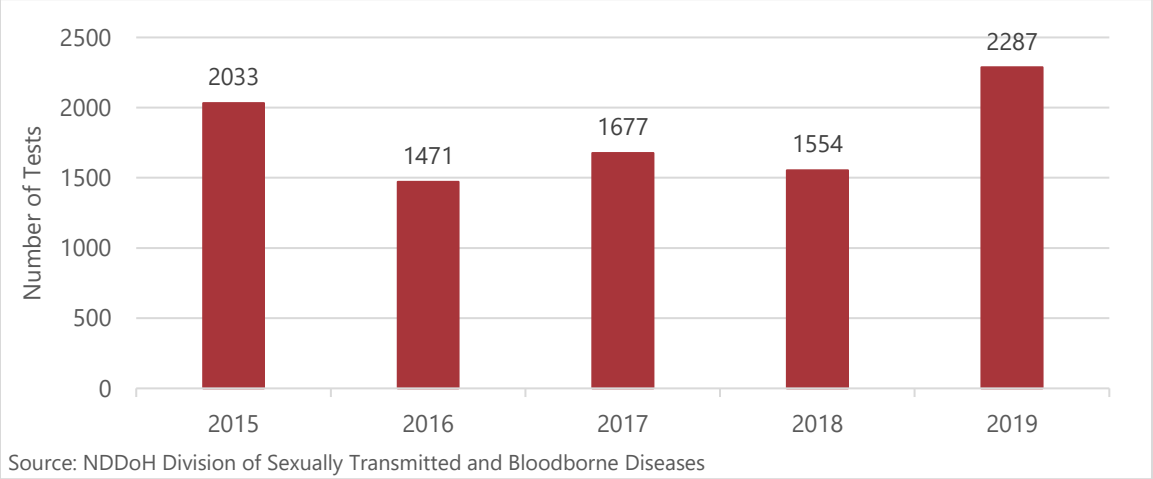
HIV PrEP Referrals CTR Sites

Only 19.6 percent of those tested for HIV reported having ever heard of HIV PrEP. Eighty-five clients reported using PrEP in the previous 12 months, and 63 were currently on PrEP. CTR staff determined that PrEP was recommended for 587 (10.4%) of those tested for HIV. Of those individuals, 336 (57.2%) had never heard of PrEP. The CTR programs aim to provide education to clients tested for HIV about the many HIV prevention tools available, including increasing the number of clients recommended for PrEP to be referred and linked to a PrEP care provider. In 2019, only three CTR sites were prescribing PrEP.

HCV Counseling, Testing and Referral Data

In 2019, 2,287 patients were tested for HCV, a 47 percent increase from 2018.

Figure 45. HCV testing at ND CTR sites, 2015-2019

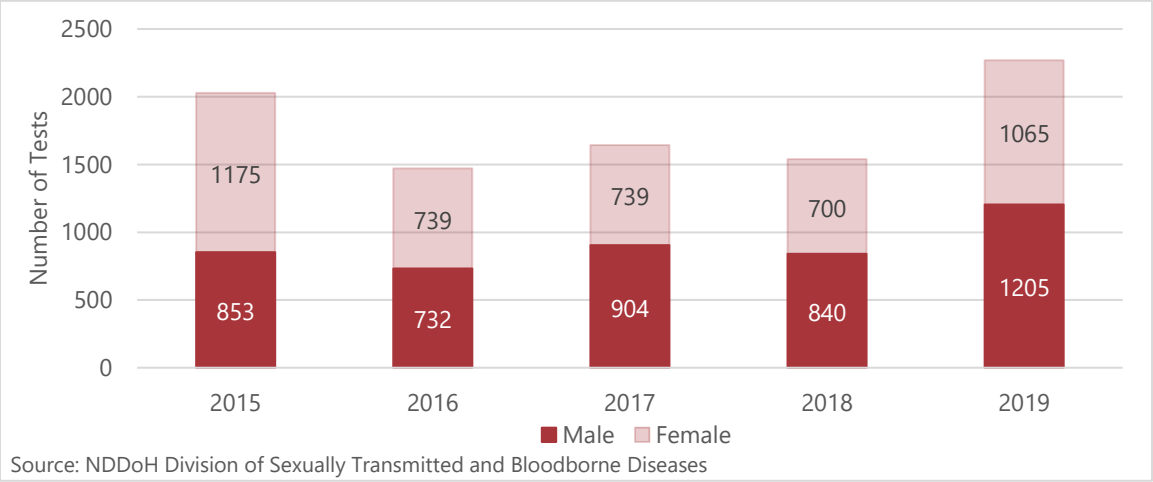


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Gender

In 2019, CTR sites tested 1,205 (52.7%) males, 1,065 (46.6%) females, 12 individuals identifying as transgender and ten identifying as another gender were tested for HCV.

Figure 46. HCV testing at ND CTR sites by gender, 2015-2019

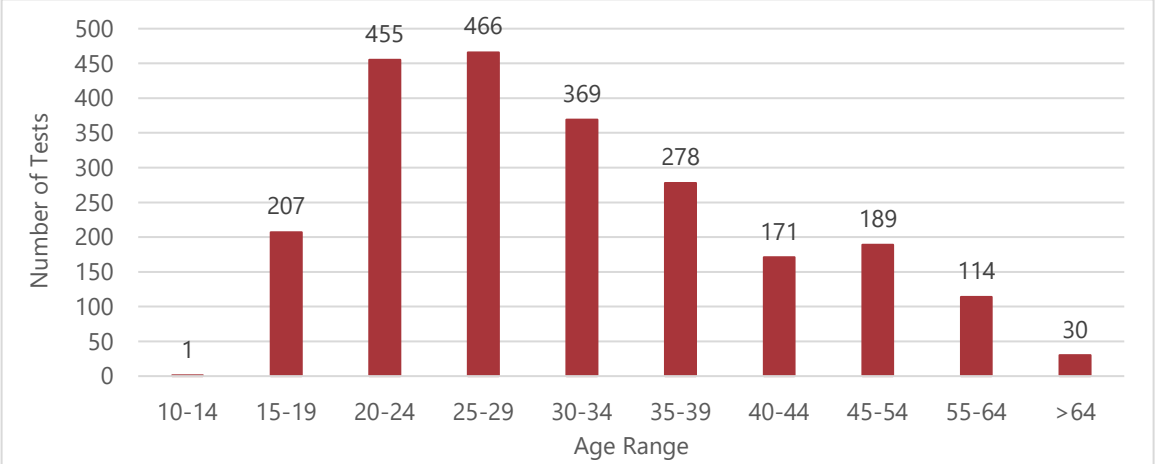


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Age

There has been an increase in HCV infections in North Dakota and nationwide among persons under 35 years of age. CTR sites are excellent places for testing young individuals in North Dakota. In 2019, 65.5 percent of individuals tested for HCV were under the age of 35. All baby boomers, those born between 1945 and 1965, should be screened for hepatitis C at least once in their lifetime. CTR sites are only intended to test baby boomers if they have an identified risk or have no health insurance. Baby boomers are primarily referred to a primary care provider. CTR sites tested only 160 individuals that fit into the baby boomer age group.

Figure 47. HCV testing at ND CTR sites by age group, 2019

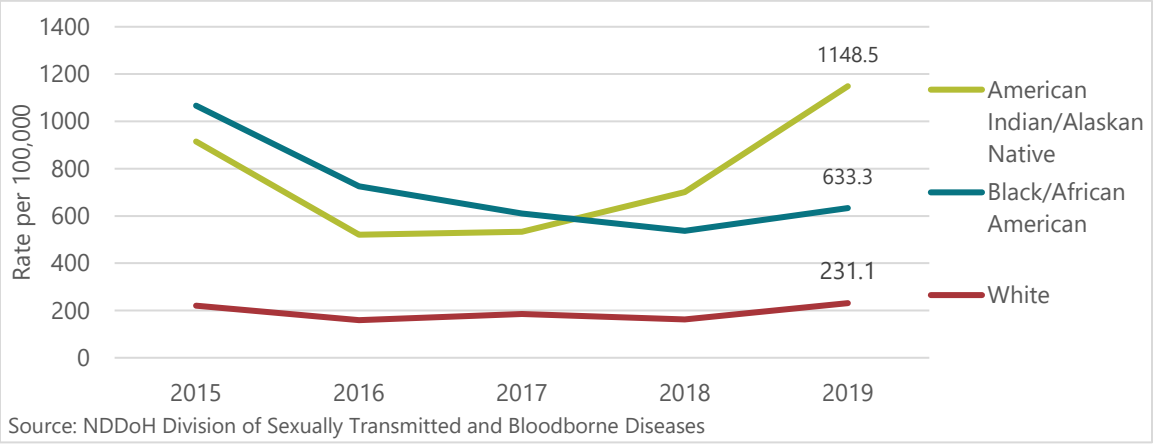


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Race

In 2019, the majority (65.9%) of those tested for HCV were white. Clients also identified as 20.7 percent American Indian/Alaska Native and 7.2 percent were Black/African Americans. Testing rates were highest among American Indians, which is also the population with the greatest HCV disparity in ND.

Figure 48. HCV testing rates at ND CTR sites by race, 2015-2019

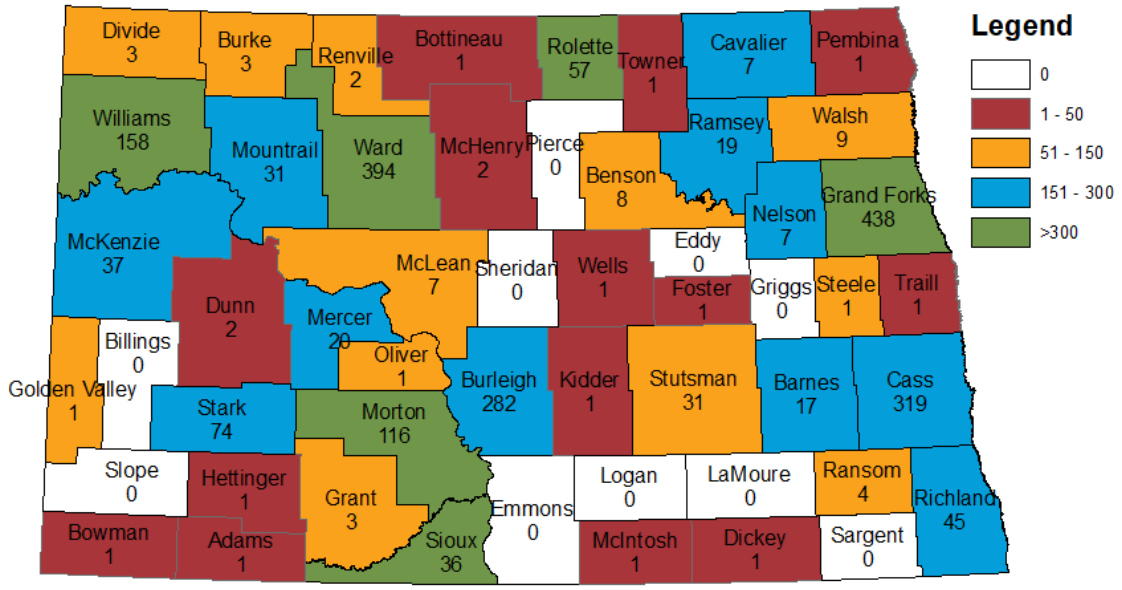


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Geography

Of all HCV tests performed at CTR sites in 2019, 2,148 (93.9 %) were among ND residents. CTR sites also tested clients from an additional 20 states. Residents of 43 of 53 counties were reported to have received an HCV test at CTR sites in 2019.

Figure 49. Number of HCV tests and rates per 100,000 persons by ND county, 2019



Risk Factors

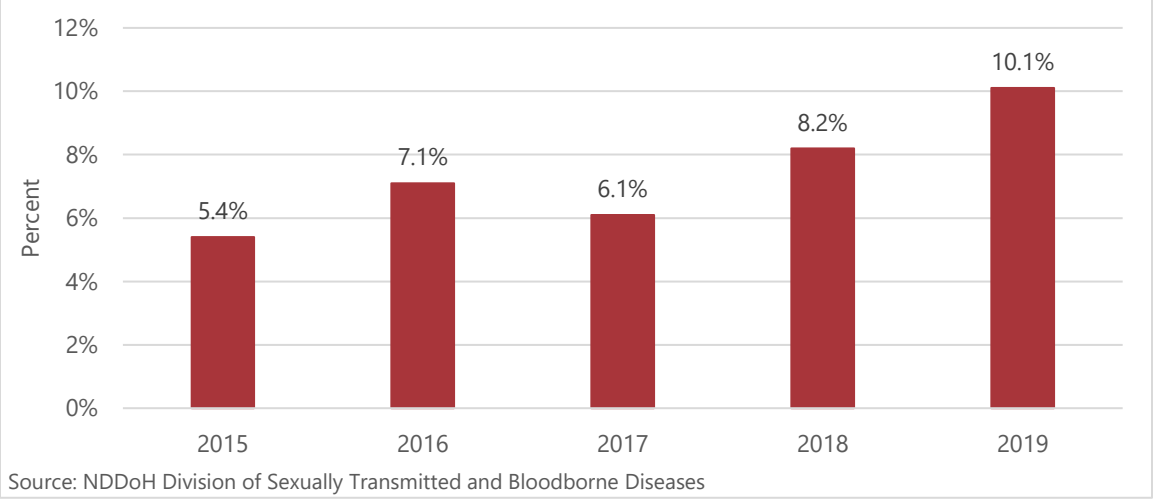
Many clients tested for HCV at CTR sites have multiple risk factors. Of those tested, 33.3 percent (n=762) identified as currently or in the past injecting drugs. Of those who had a history of injection drug use, 67 percent reported sharing injection equipment. Additional risk factors reported receiving tattoos or piercings in an unsterile environment (18.4%) and having sex with a person who injects drugs (27.7%). Of all the males tested for HCV, 21.1 percent identified as MSM.

HCV Positives Identified at CTR Sites

In 2019, 231 (10.1%) individuals were identified as being rapid HCV positive. This is a 23.8 percent increase in the rapid testing positivity rate compared to 2018. Of those identified as rapid positive, there were 108 (46.8%) females and 123 (53.2%) males. The ages of those identified ranged from 18 to 64 with 53.2 percent being under the age of 35. Of the rapid HCV positives that were identified, 212 (91.8%) identified as having a history of or currently injected drugs.

RNA results were known on 168 of the 231 rapid HCV positive cases identified at CTR sites. Of those, 127 (71.3%) were identified as currently infected with HCV. There were an additional ten individuals that were tested for hepatitis C with confirmatory testing but not rapid testing, thus a total of 137 individuals were diagnosed with a current HCV infection at CTR sites in 2019. Of those not receiving confirmatory testing (18%), 31 were referred to another agency such as a primary care provider, and 11 declined or were unavailable for confirmatory testing. CTR sites often provide linkage to care services, ensuring that clients are referred to appropriate healthcare such as a substance abuse provider or a healthcare provider for hepatitis C treatment evaluation.

Figure 50. Percentage of HCV rapid positives, 2015-2019



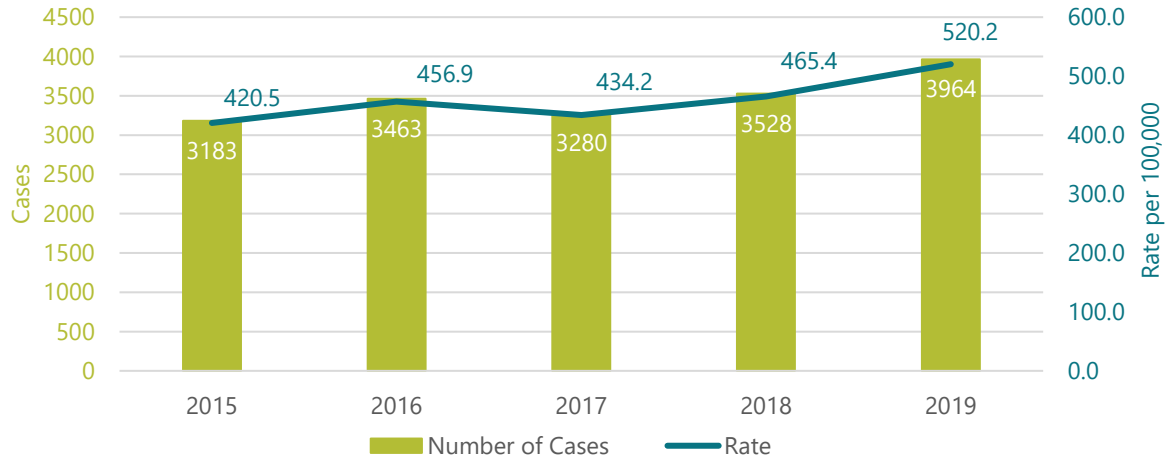
Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Sexually Transmitted Infections (STIs)

Chlamydia

Chlamydia is the most common notifiable disease in the United States reported to the CDC. In 2019, North Dakota reported 3,964 cases of chlamydia, a rate of 520.2 cases per 100,000 persons.

Figure 51. Reported cases of chlamydia and North Dakota incident rate, 2015-2019

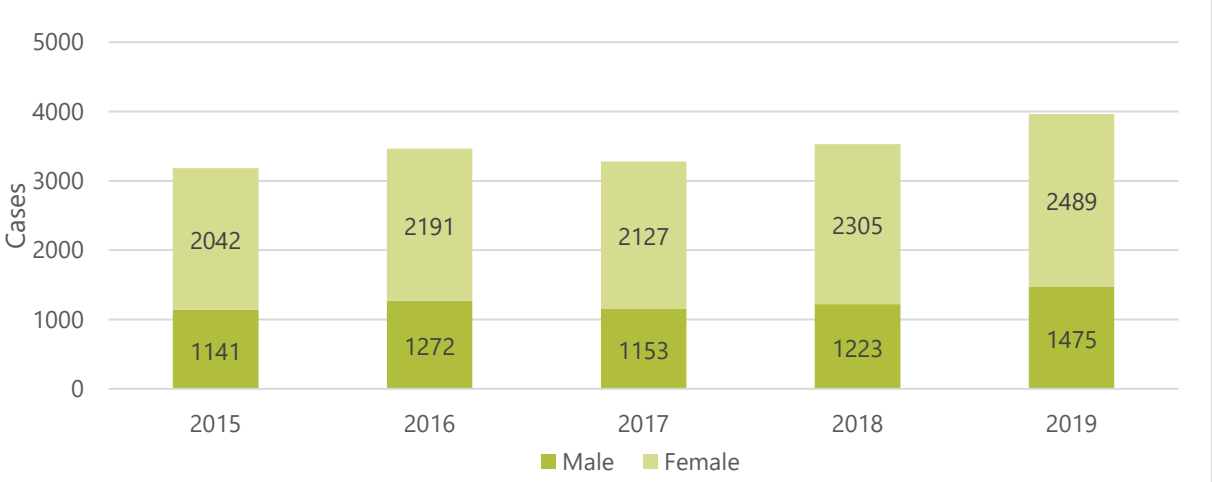


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Gender

Of the chlamydia cases reported in 2019, 2,489 (62.7%) were females. This distribution is expected as females are screened more frequently for the disease through annual gynecological visits, prenatal care, and age-based screening recommendations.

Figure 52. Reported cases of chlamydia by gender in ND, 2015-2019

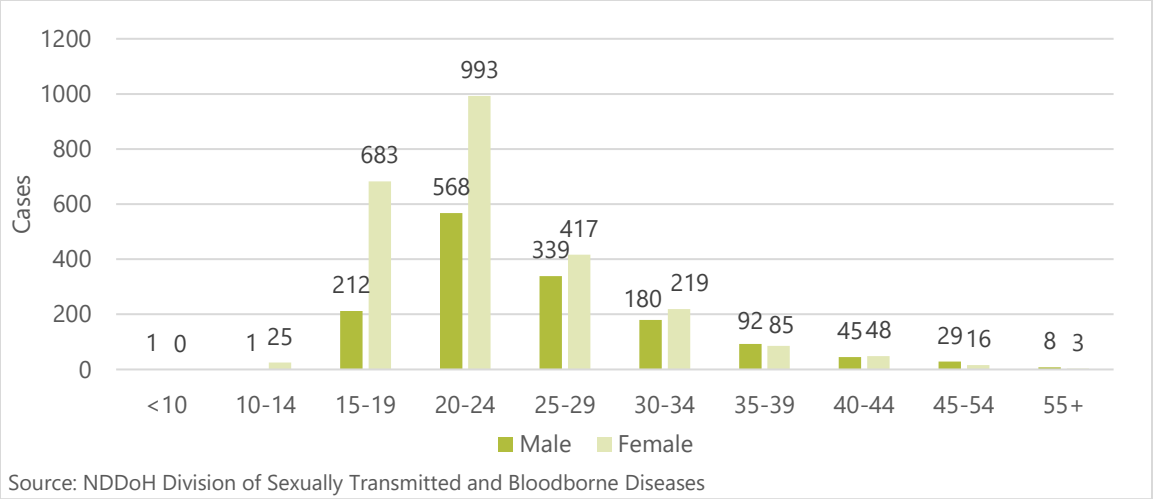


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Age

Over 40 percent of chlamydia cases over the past five years have been in adults between the ages of 20 and 24. The second highest age category is teenagers aged 15 to 19. Male cases of chlamydia are on average older than female cases.

Figure 53. Chlamydia cases by age and gender in ND, 2019

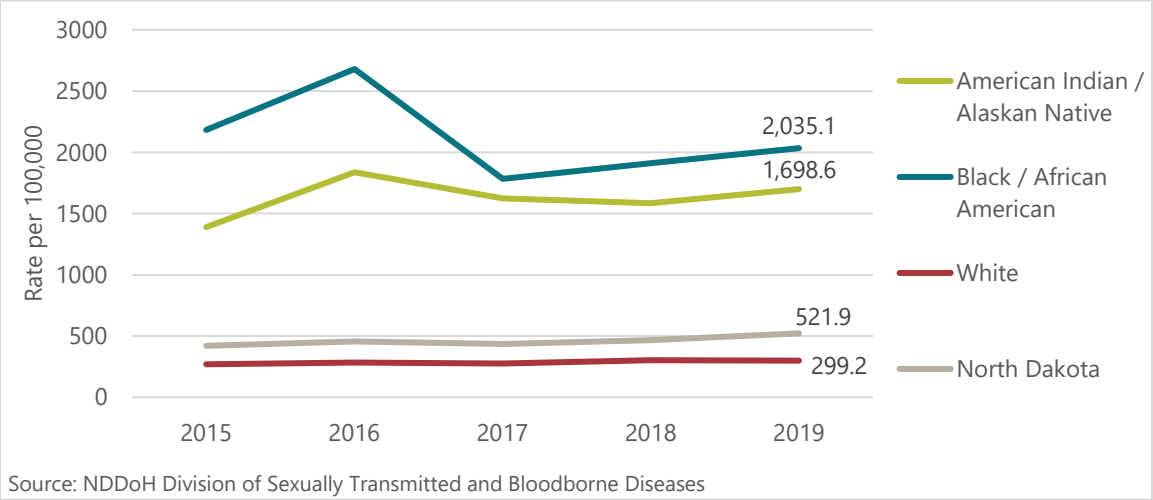


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Race

Of cases with a known race (n=3,324), 1,950 cases were reported among whites, followed by American Indian/Alaskan Natives with 701 cases and Black/African Americans with 527 cases. Due to smaller population sizes, Black/African Americans had the highest rate of 2,035 cases per 100,000 persons.

Figure 54. Rates of chlamydia in North Dakota by race, 2015-2019

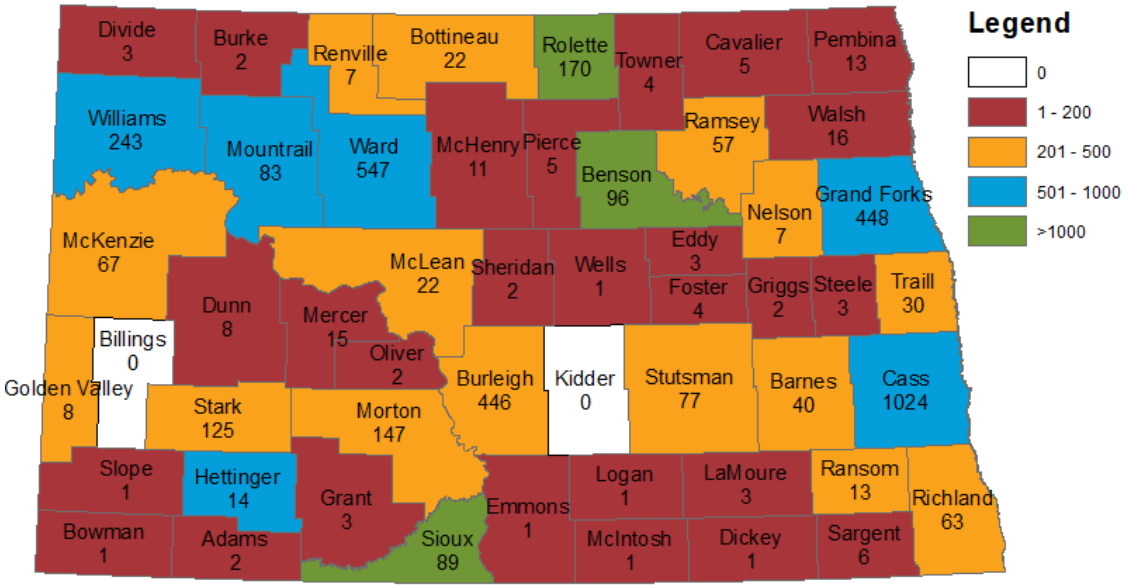


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Geography

In 2019, 51 of 53 counties reported at least one case of chlamydia. The map below lists the number of reported cases by county. The shading indicates the rate of chlamydia per 100,000 persons by county. Sioux, Benson and Rolette Counties reported the highest rates of chlamydia in 2019. See Appendix A for detailed counts and rates by county for 2015-2019.

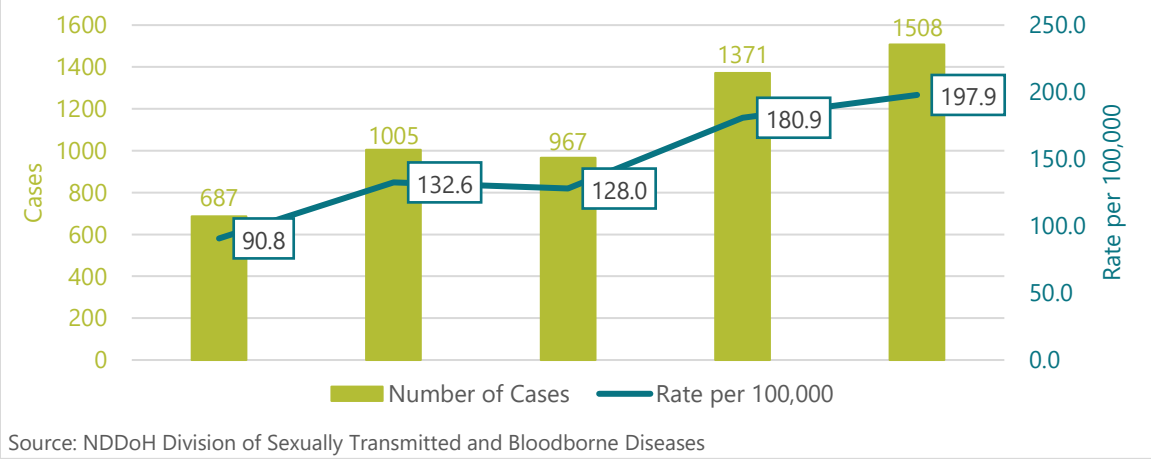
Figure 55 Chlamydia cases by ND county shaded by rate, 2019



Gonorrhea

In 2019, there was an increase (10%) in the number of gonorrhea cases reported in North Dakota with a total of 1,508 cases. Gonorrhea cases have increased across the United States at unprecedented rates.

Figure 56. Gonorrhea cases and North Dakota rate, 2015-2019

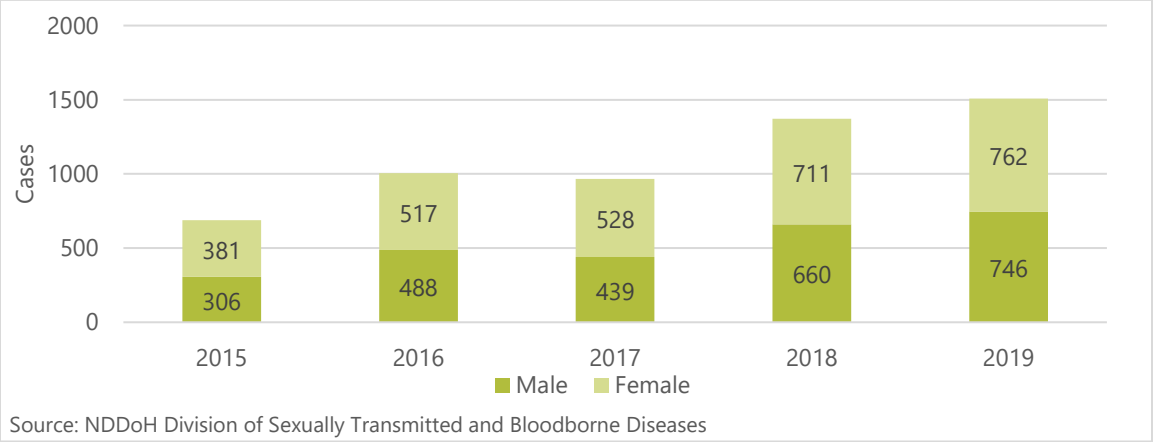


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Gender

The gender distribution of gonorrhea is more evenly spread than chlamydia. Of the 1508 cases in 2019, 762 (51%) were female and 746 (49.5%) were male.

Figure 57. Gonorrhea cases by gender in ND, 2014-2018

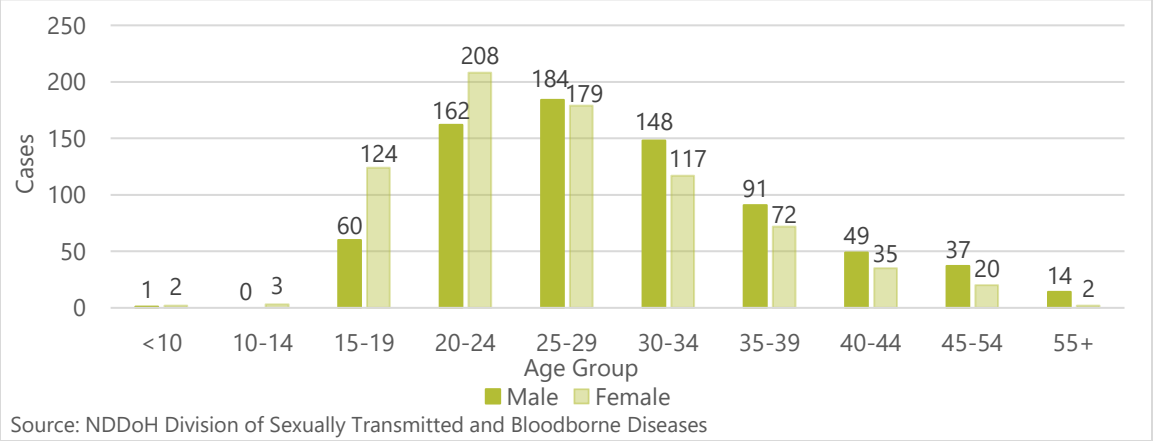


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Age

Teenagers and young/ early adults continue to be disproportionally affected by gonorrhea. Nearly half (48.6%) of cases reported are among persons between the age of 20-29. However, for the second consecutive year, those 30 to 44 reported increased rates (66% increase in 2018, 18% increase in 2019). Male cases are, on average, older than female cases.

Figure 58. Gonorrhea cases by age and gender in ND, 2019

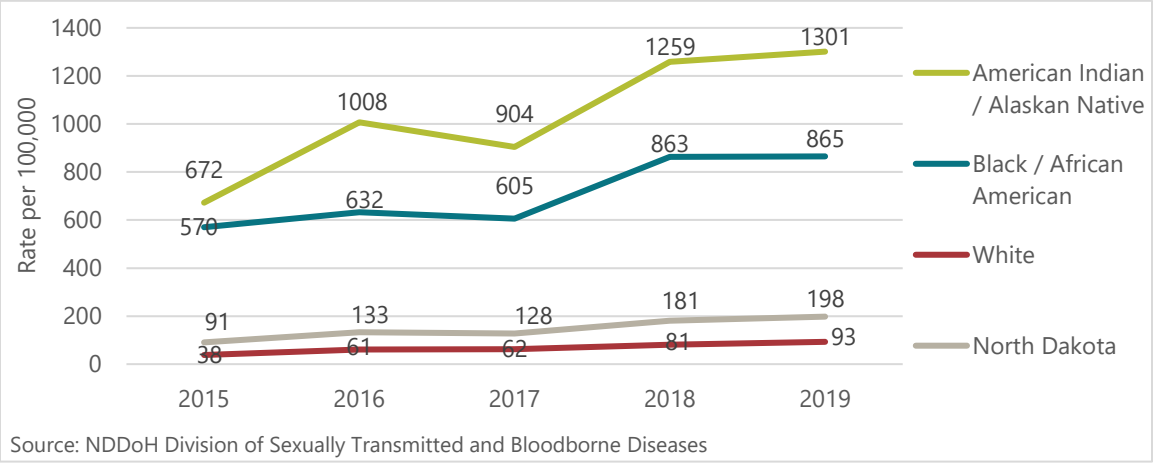


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Race

North Dakota reported increased gonorrhea rates among nearly all races in 2019. American Indians/Alaskan Natives accounted for the majority of cases, with 525, a rate of 1,301 cases per 100,000 persons. Two hundred twenty-four cases were reported among Black/African Americans, a rate of 865 cases per 100,000. White North Dakotans reported a total of 606 cases, with a rate of 93 cases per 100,000.

Figure 59. Gonorrhea rates by race in ND, 2015-2019



Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

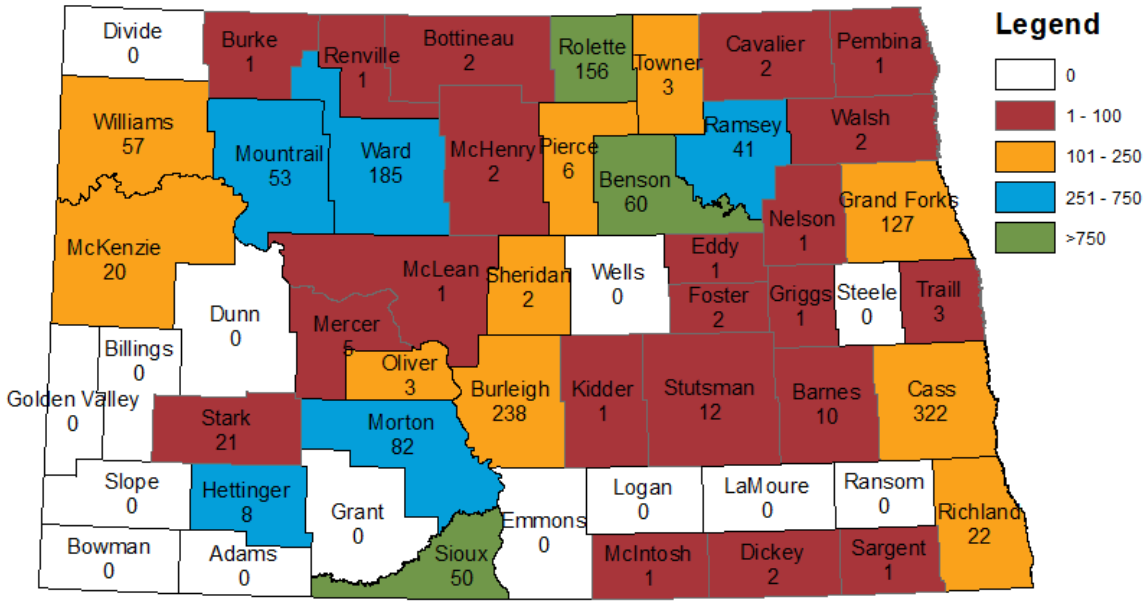
Risk Factors

In 2019, 861 individuals diagnosed with gonorrhea were interviewed for risk factors. Of those, 15 percent reported injection drug use, 16 percent reported sex with an anonymous partner and 41 percent reported sex while high and/or intoxicated. Fifty percent of gonorrhea cases reported using condoms not very often or never.

Geography

In 2019, 39 counties reported at least one case of gonorrhea. The map below lists the number of reported cases by county. The shading indicates the rate of gonorrhea per 100,000 persons by county. Sioux, Rolette and Benson Counties reported the highest rates of gonorrhea in 2019. See Appendix B for detailed counts and rates by county for 2015-2019.

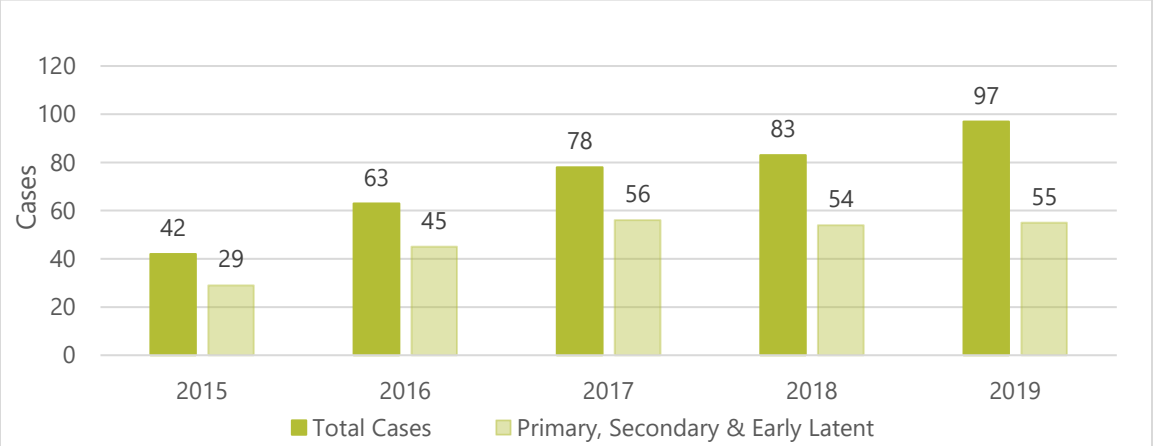
Figure 60. Gonorrhea case counts and rate per 100,000 persons by ND county, 2019



Syphilis

In 2019, a total of 97 cases of syphilis were reported. Of the cases reported, 55 were early stage (primary, secondary or early latent stages) of syphilis. Primary and secondary syphilis cases are diagnosed based on the presence of symptoms at the time of testing. Early latent is diagnosed based on the exposure occurring within the last 12 months in the absence of symptoms.

Figure 61. Syphilis cases by stage in ND, 2015-2019

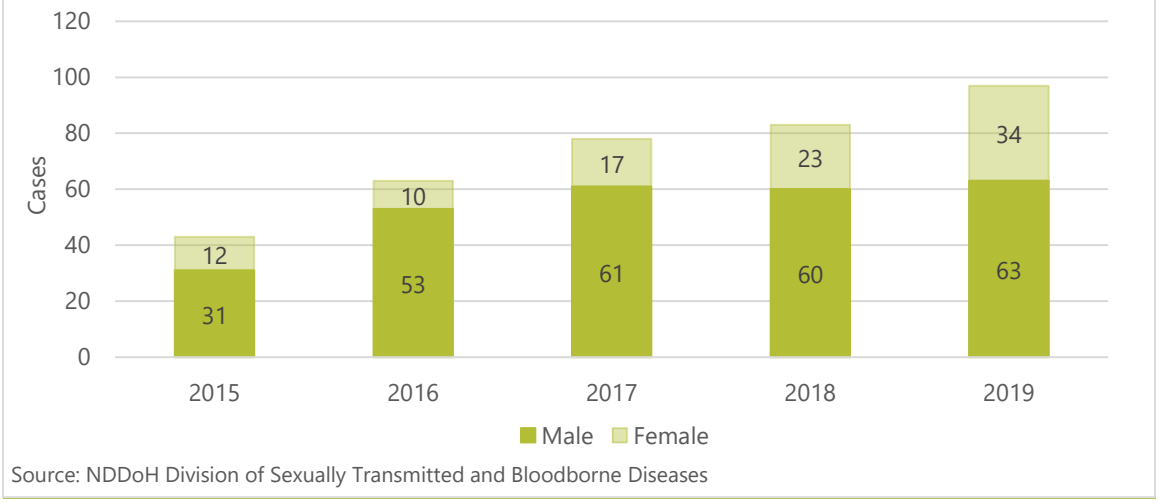


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Gender

Of the 97 syphilis cases in 2019, 63 (65%) cases were reported among males. Female cases continue to increase. In 2019, eight females were infected with syphilis during pregnancy. All received timely and appropriate treatment, which prevented congenital transmission.

Figure 62. Number of syphilis cases by gender in ND, 2015-2019

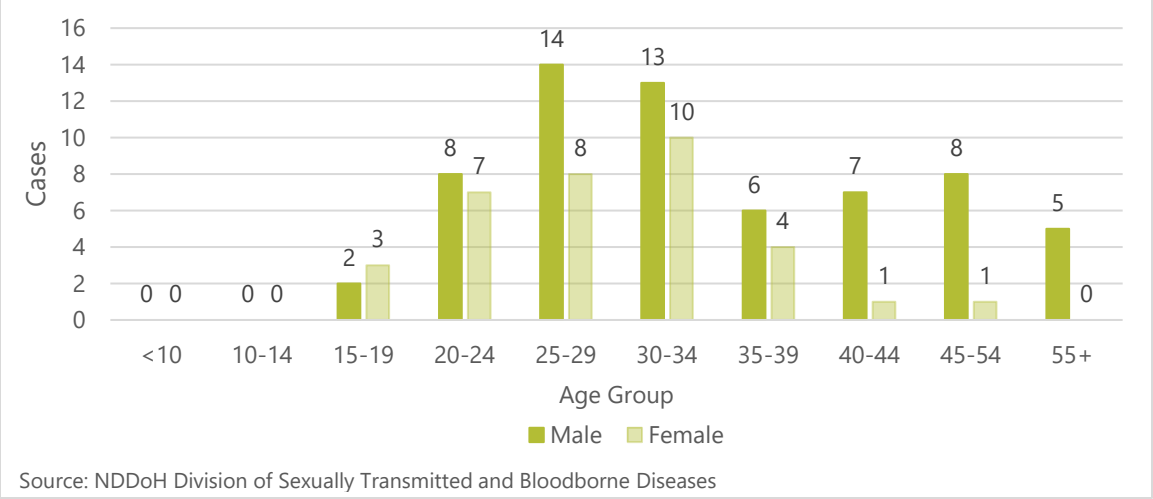


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Age

The mean age of syphilis cases is higher than for chlamydia and gonorrhea cases. In 2019, the average age of syphilis cases was 33 years old.

Figure 63. Syphilis cases by age and gender in ND, 2019

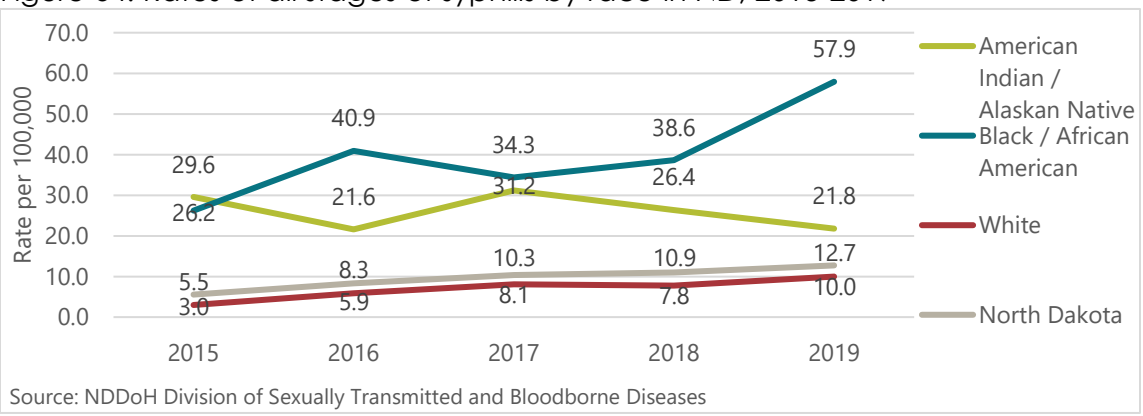


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Race

Though the overall state syphilis rate increased, multiple races reported decreased rates in 2019. American Indian/Alaskan Natives reported a 4.6 percent decreased rate of infections per 100,000 persons (26.4% in 2018, 21.8% in 2019). Black/African Americans had the greatest rate at 57.9 infections per 100,000 persons.

Figure 64. Rates of all stages of syphilis by race in ND, 2015-2019



Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

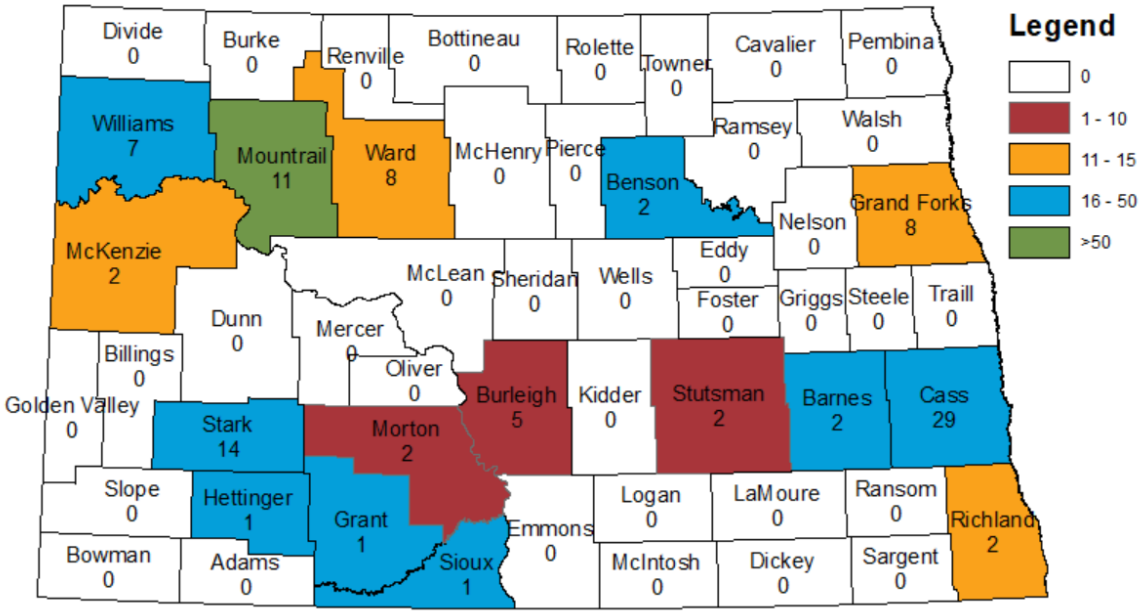
Risk Factors

In 2019, 86 individuals diagnosed with syphilis were interviewed for risk factors. Of those, 20 percent reported injection drug use, 43 percent reported sex while high and/or intoxicated and 23 percent reported sex with an anonymous partner. Sixty-seven percent of syphilis cases reported using condoms not very often or never. Forty-nine percent of the 53 male cases interviewed reported having sex with men, with 8 percent also having sex with women.

Geography

Syphilis cases were reported in 16 counties across the state. Counts by county ranged from one case to 29. The map below lists the number of reported cases by county. The shading indicates the syphilis rate per 100,000 persons by county.

Figure 65. Syphilis case counts and rates per 100,000 persons by ND county, 2019

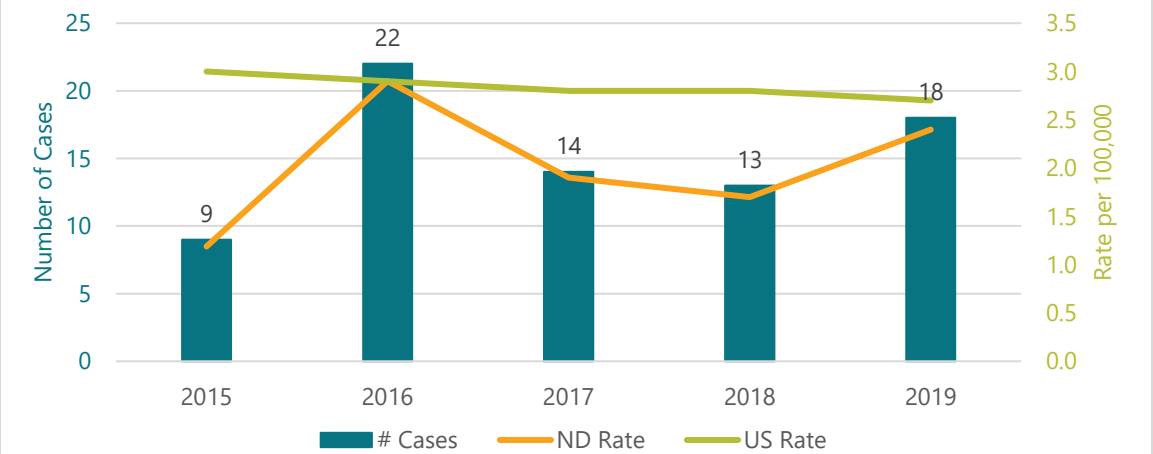


Tuberculosis

Tuberculosis Disease

Eighteen cases of active tuberculosis (TB) were reported to the NDDoH in 2019, increasing from 13 in the previous year. A total of 8,920 cases of active TB were reported in the United States; this count represents the lowest number of United States TB cases on record (CDC, 2019). TB incidence in the United States has steadily declined since 1993, but the pace of decline has slowed in recent years. The U.S. TB rate of 2.7 cases per 100,000 is higher than the North Dakota rate of 2.4 per 100,000 persons.

Figure 66. Active tuberculosis cases and incident rate per 100,000 persons in ND, 2015-2019

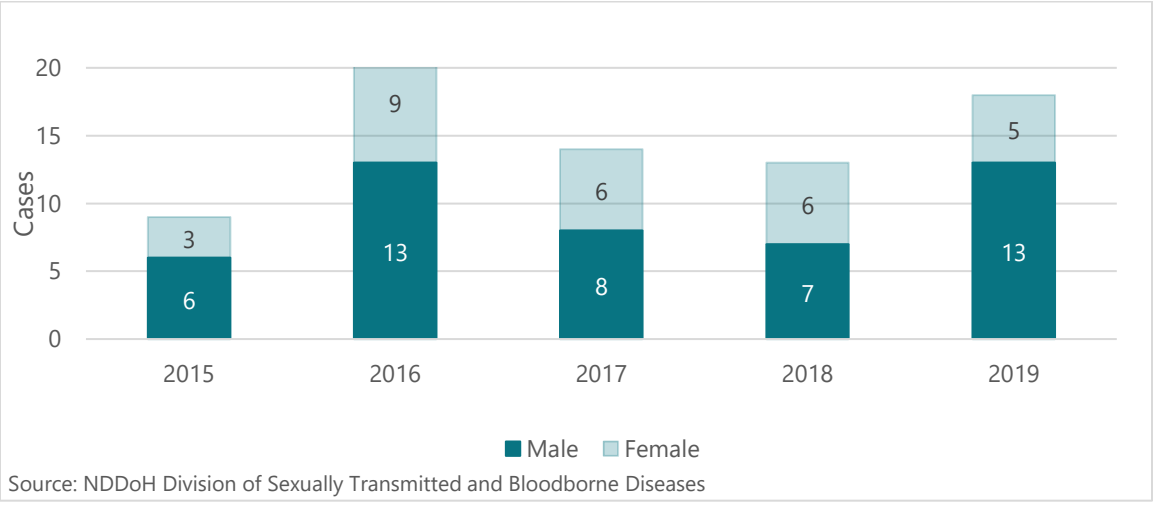


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Gender

In 2019, five cases of active TB were identified in females and 13 cases in males.

Figure 67. Tuberculosis cases by gender in ND, 2015-2019

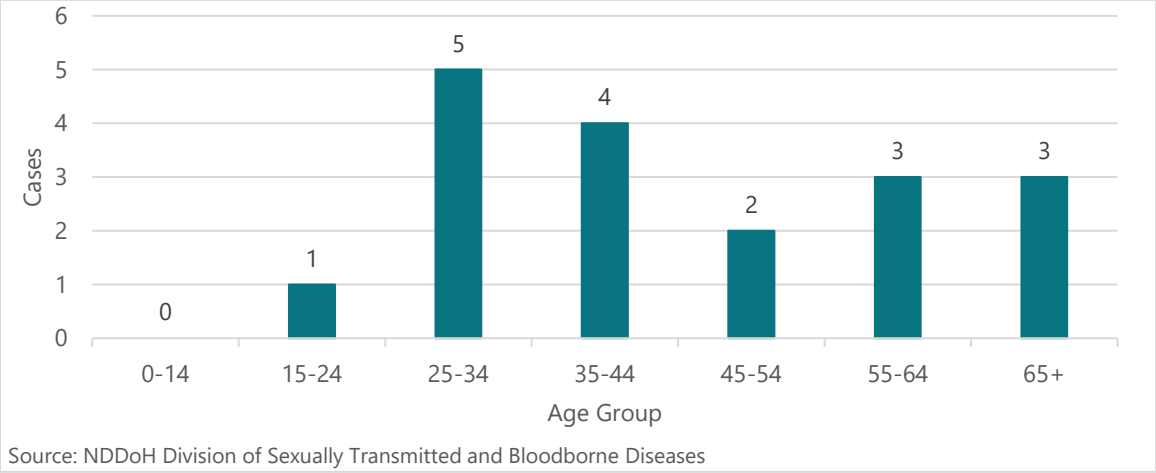


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Age

The age span of active TB cases in North Dakota ranged from 24-73, with the average age of diagnosis being 46.3 years old in 2019.

Figure 68. Active TB cases by age in ND, 2019

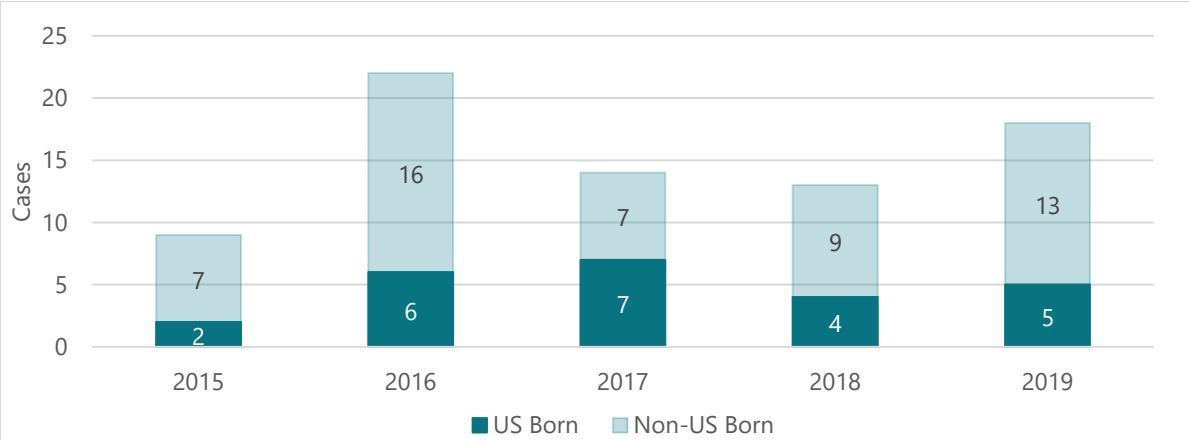


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Race

Active TB in the United States is found most commonly among people who travel to or who were born in countries with high TB rates. In 2019, 28 percent of cases reported to NDDoH were U.S. born, and 72 percent of cases were non-U.S. born.

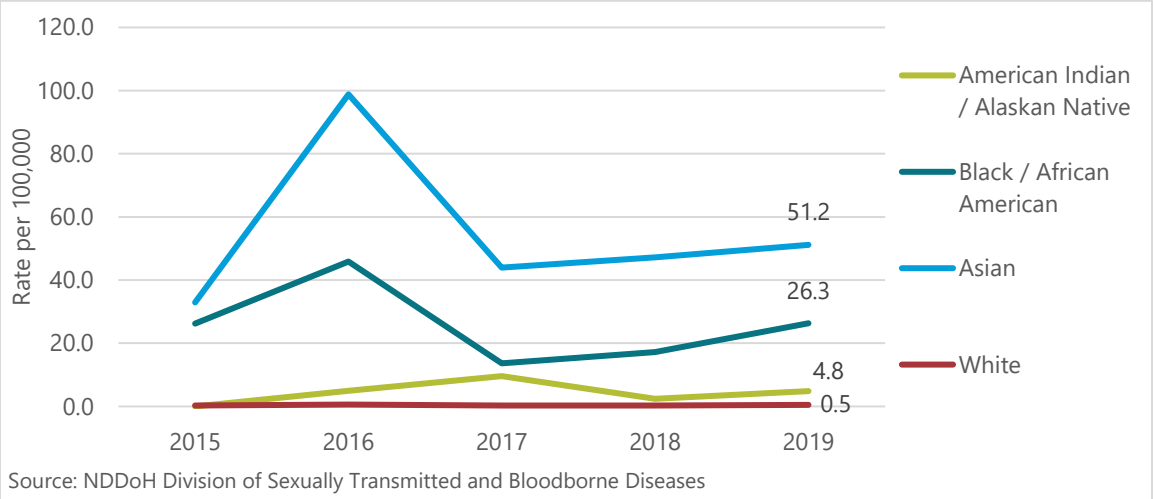
Figure 69. Number of active TB cases in ND born in the U.S. and non-U.S. countries, 2015-2019



Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Although the incidence of TB in North Dakota is low, cases that are reported demonstrate a racial disparity. Among all North Dakota cases, the highest TB incidence rate was among Asians (51.2 cases per 100,000 persons), followed by Black/African Americans (26.3 cases per 100,000 persons).

Figure 70. TB incidence rates by race in ND, 2014-2018

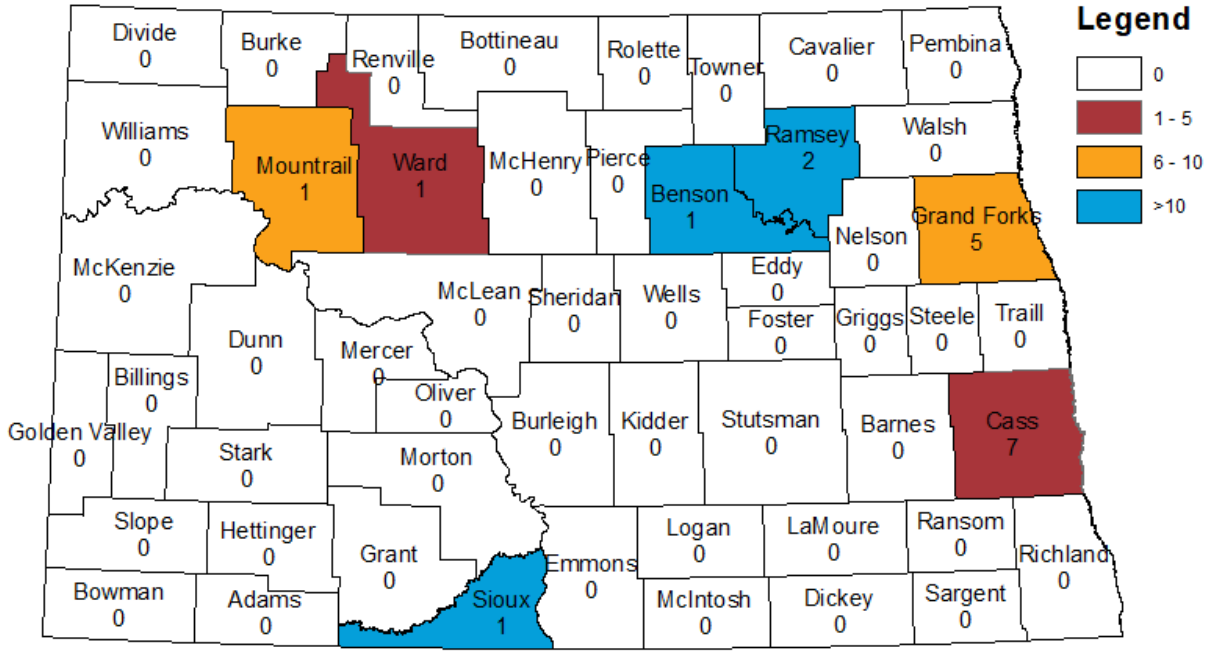


Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Geography

In 2019, the 18 TB cases were reported from seven counties. The map below lists the number of reported cases by county. The shading indicates the rate of TB per 100,000 persons by county.

Figure 71. Active TB case counts and rate per 100,000 persons by ND county, 2019



Tuberculosis Infection

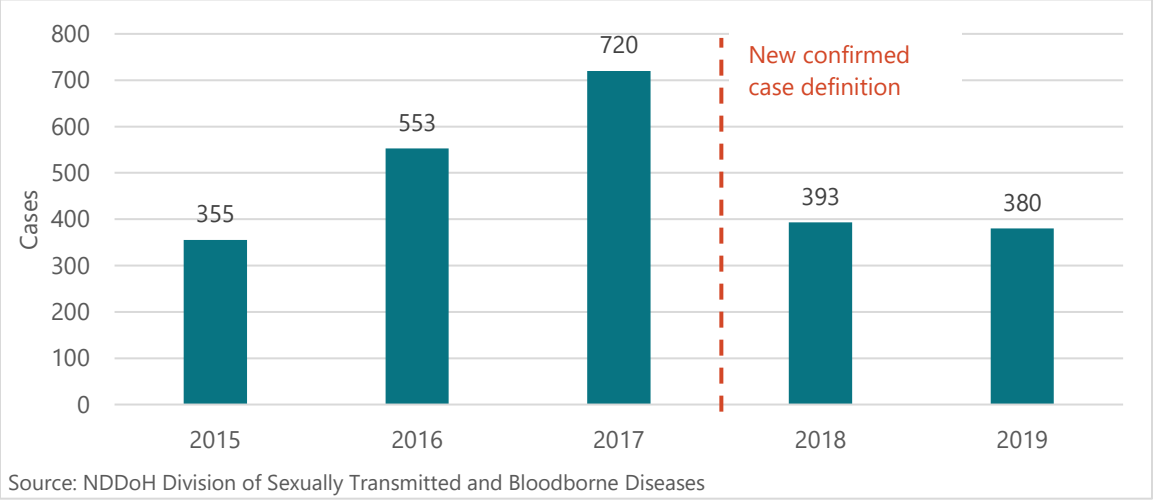
People can be infected with the bacteria that causes tuberculosis without causing disease. This is called TB infection. In most people who breathe in TB bacteria and become infected, the body can contain the bacteria and prevent it from spreading.

Many people who have TB infection never develop TB disease. In these individuals, the TB bacteria remains inactive for a lifetime without causing disease. But in others, especially those with a weak immune system or those who have a change in their health, the bacteria become activated, multiply and cause TB disease. The identification and treatment of TB infection is an essential component towards controlling and eliminating TB in the United States.

While many providers have reported TB infections to NDDoH for many years, LTBI officially became a reportable disease in North Dakota in 2018. The case definition used by NDDoH follows the guidance of CSTE and CDC. For cases to meet the CSTE case definition, providers must report the laboratory, clinical and radiologic findings as part of the assessment to rule out active TB disease. The TB Program does not perform chart reviews on electronically reported positive TB tests to obtain missing data elements to confirm TB infection. The data below shows reports of laboratory evidence of TB infection for 2015-2019 and only cases that meet the confirmed case definition starting in 2018.

In 2019, 380 cases of TB infection were reported to NDDoH. Of those, 322 persons (84.7%) are known to have treatment prescribed and medication provided through the state-supplied medication program.

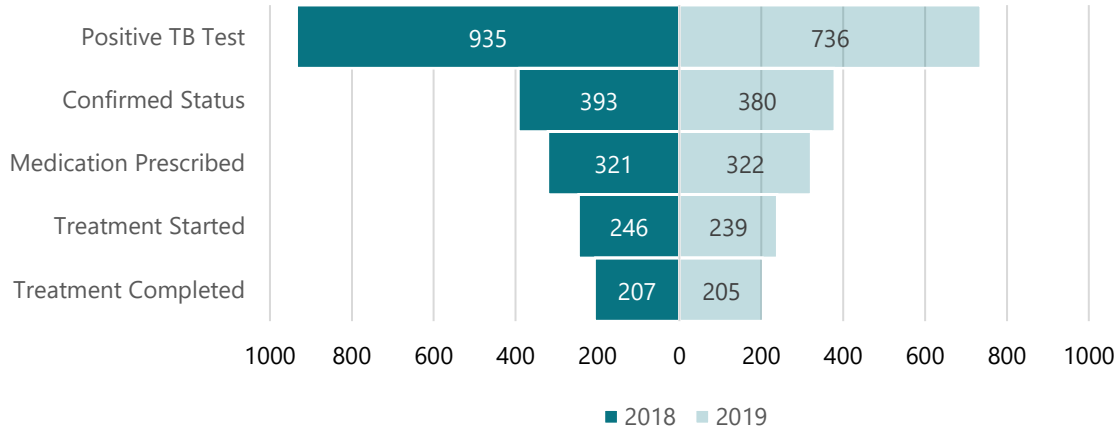
Figure 72. TB infections reported in North Dakota, 2015-2019



Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

In 2019, among those confirmed positive for latent tuberculosis infection (LTBI) in North Dakota, roughly half (53%) completed treatment. Of the confirmed LTBI who were prescribed medication, about 75% started treatment. For those that started treatment, about 86% complete treatment. Reasons for not completing treatment include adverse reactions to the medication and lost to follow-up. This review of steps from initial LTBI test through treatment is called the latent tuberculosis cascade of care. The rates for North Dakota's LTBI cascade of care changed marginally between 2018 and 2019. The cascade can help identify significant losses where a targeted approach may be needed to address each step in the cascade.

Figure 73. Reported Latent TB treatment cascade in North Dakota, 2018-2019



Source: NDDoH Division of Sexually Transmitted and Bloodborne Diseases

Appendices

Appendix A

Chlamydia counts and rates by county, North Dakota, 2015-2019

	Chlamydia, counts					Chlamydia, rates per 100,000				
COUNTY	2015	2016	2017	2018	2019	2015	2016	2017	2018	2019
Adams	4	2	4	1	2	169.6	86.8	172.6	43.9	90.3
Barnes	32	21	29	22	40	288.3	192.2	270.2	209.0	384.1
Benson	87	129	91	98	96	1288.3	1914.2	1312.0	1408.5	1405.2
Billings	1	0	0	2	0	106.8	0.0	0.0	217.9	0.0
Bottineau	9	7	8	13	22	134.0	106.4	122.5	203.2	350.2
Bowman	2	12	5	5	1	60.7	370.3	157.9	163.0	33.1
Burke	1	4	1	2	2	43.3	182.0	46.9	95.5	94.6
Burleigh	407	405	425	465	446	437.7	428.6	447.2	488.1	466.4
Cass	850	869	853	882	1024	495.6	495.9	479.8	489.2	562.9
Cavalier	1	4	6	2	5	26.1	104.5	159.5	52.5	132.9
Dickey	1	4	3	4	1	19.6	79.0	61.7	81.1	20.5
Divide	2	7	6	2	3	81.6	290.1	262.2	88.3	132.5
Dunn	15	16	9	8	8	322.9	366.5	209.8	184.8	180.8
Eddy	7	2	8	5	3	296.0	84.8	345.4	216.5	131.2
Emmons	1	4	2	5	1	29.4	119.5	60.6	152.5	30.9
Foster	6	3	4	1	4	178.8	90.8	122.8	31.2	124.6
Golden Valley	1	14	10	8	8	54.2	770.5	559.0	453.8	454.3
Grand Forks	328	360	383	421	448	462.5	506.5	541.0	598.4	645.1
Grant	5	4	3	4	3	209.4	168.3	126.3	169.9	131.9
Griggs	2	0	2	7	2	86.4	0.0	88.6	314.2	89.6
Hettinger	19	19	33	15	14	702.7	722.7	1329.0	599.3	560.2
Kidder	3	2	3	4	0	124.1	82.9	120.9	163.1	0.0
LaMoure	5	6	2	11	3	121.2	145.9	48.9	269.9	74.1
Logan	1	1	1	2	1	51.7	51.5	52.1	106.0	54.1
McHenry	5	10	13	8	11	83.8	167.7	220.3	137.7	191.5
McIntosh	1	1	0	0	1	36.2	37.7	0.0	0.0	40.0
McKenzie	37	37	44	42	67	288.5	293.2	345.8	309.0	446.0
McLean	20	20	15	21	22	205.3	205.6	154.9	220.4	232.8
Mercer	16	16	19	12	15	180.7	184.0	224.5	145.2	183.2
Morton	104	135	146	144	147	343.1	438.2	474.1	463.6	468.7
Mountrail	57	66	79	77	83	551.7	644.4	769.6	752.0	787.1
Nelson	5	4	2	4	7	168.5	135.1	68.1	138.6	243.1
Oliver	3	2	3	0	2	162.5	107.0	154.6	0.0	102.1
Pembina	5	5	10	3	13	70.5	70.7	143.4	43.5	191.1
Pierce	3	6	6	6	5	69.6	140.6	146.4	147.4	125.8
Ramsey	46	102	57	46	57	395.5	883.3	494.8	397.2	494.8
Ransom	20	13	14	13	13	367.1	240.6	264.3	248.9	249.1
Renville	1	2	1	3	7	38.9	78.4	40.6	127.2	300.8
Richland	44	47	45	60	63	268.3	287.4	275.2	369.7	389.4
Rolette	135	155	155	160	170	921.6	1057.4	1066.7	1115.1	1199.2
Sargent	5	15	7	3	6	129.0	385.6	181.4	77.9	153.9
Sheridan	1	1	1	0	2	76.3	75.6	73.9	0.0	152.1
Sioux	68	91	87	100	89	1556.1	2036.2	1988.1	2284.7	2104.0
Slope	0	0	1	0	1	0.0	0.0	129.7	0.0	133.3
Stark	112	127	115	146	125	348.3	407.1	380.7	472.6	397.0
Steele	3	1	5	1	3	153.4	51.0	260.8	52.9	158.7
Stutsman	51	65	61	72	77	241.7	307.6	289.3	344.9	371.9
Towner	5	7	4	6	4	220.1	309.3	177.5	274.6	182.7
Traill	17	23	32	27	30	212.1	286.4	399.4	336.7	373.3
Walsh	13	11	13	20	16	119.3	100.9	119.8	187.9	150.4
Ward	433	448	298	355	547	607.5	638.1	432.2	524.3	808.7
Wells	4	6	3	3	1	96.0	146.4	74.6	76.8	26.1
Williams	179	152	153	207	243	507.2	442.7	458.8	583.6	646.5

Appendix B

Gonorrhea counts and rates by county, North Dakota, 2015-2019

	Gonorrhea, counts					Gonorrhea, rates per 100,000				
COUNTY	**2015**	**2016**	**2017**	**2018**	**2019**	**2015**	**2016**	**2017**	**2018**	**2019**
Adams	0	4	0	0	0	0.0	173.5	0.0	0.0	0.0
Barnes	0	1	2	6	10	0.0	9.2	18.6	55.9	96.0
Benson	29	90	44	54	60	429.4	1335.5	634.4	778.5	878.2
Billings	0	0	1	0	0	0.0	0.0	106.4	0.0	0.0
Bottineau	4	1	2	4	2	59.6	15.2	30.6	61.3	31.8
Bowman	0	0	1	2	0	0.0	0.0	31.6	63.2	0.0
Burke	0	1	0	0	1	0.0	45.5	0.0	0.0	47.3
Burleigh	97	130	224	249	238	104.3	137.6	235.7	262.0	248.9
Cass	156	223	199	278	322	91.0	127.2	111.9	156.4	177.0
Cavalier	0	1	0	1	2	0.0	26.1	0.0	26.6	53.2
Dickey	0	1	0	0	2	0.0	19.7	0.0	0.0	41.1
Divide	0	1	0	1	0	0.0	41.4	0.0	43.7	0.0
Dunn	0	2	0	1	0	0.0	45.8	0.0	23.3	0.0
Eddy	1	2	3	1	1	42.3	84.8	129.5	43.2	43.7
Emmons	0	2	0	4	0	0.0	59.8	0.0	121.2	0.0
Foster	1	0	0	1	2	29.8	0.0	0.0	30.7	62.3
Golden Valley	0	1	5	2	0	0.0	55.0	279.5	111.8	0.0
Grand Forks	45	59	67	93	127	63.5	83.0	94.6	131.4	182.9
Grant	1	1	0	1	0	41.9	42.1	0.0	42.1	0.0
Griggs	0	0	1	2	1	0.0	0.0	44.3	88.6	44.8
Hettinger	10	15	16	10	8	369.8	570.6	644.4	402.7	320.1
Kidder	0	1	0	0	1	0.0	41.4	0.0	0.0	40.3
LaMoure	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
Logan	0	0	0	0	0	0.0	0.0	0.0	0.0	0.0
McHenry	1	1	0	2	2	16.8	16.8	0.0	33.9	34.8
McIntosh	0	0	0	0	1	0.0	0.0	0.0	0.0	40.0
McKenzie	6	7	11	13	20	46.8	55.5	86.5	102.2	133.1
McLean	5	8	6	13	1	51.3	82.2	62.0	134.2	10.6
Mercer	3	3	5	8	5	33.9	34.5	59.1	94.5	61.1
Morton	20	40	45	77	82	66.0	129.8	146.1	250.0	261.4
Mountrail	20	31	32	39	53	193.6	302.7	311.7	379.9	502.6
Nelson	0	0	0	1	1	0.0	0.0	0.0	34.0	34.7
Oliver	1	2	0	0	3	54.2	107.0	0.0	0.0	153.1
Pembina	1	1	2	1	1	14.1	14.1	28.7	14.3	14.7
Pierce	0	4	3	7	6	0.0	93.7	73.2	170.8	150.9
Ramsey	19	32	15	35	41	163.4	277.1	130.2	303.8	355.9
Ransom	0	4	1	3	0	0.0	74.0	18.9	56.6	0.0
Renville	0	0	0	1	1	0.0	0.0	0.0	40.6	43.0
Richland	3	11	14	9	22	18.3	67.3	85.6	55.0	136.0
Rolette	132	143	107	168	156	901.1	975.5	736.4	1156.1	1100.5
Sargent	0	1	2	3	1	0.0	25.7	51.8	77.8	25.7
Sheridan	0	0	0	0	2	0.0	0.0	0.0	0.0	152.1
Sioux	20	25	37	62	50	457.7	559.4	845.5	1416.8	1182.0
Slope	0	0	0	1	0	0.0	0.0	0.0	129.7	0.0
Stark	8	10	13	15	21	24.9	32.1	43.0	49.7	66.7
Steele	0	1	0	1	0	0.0	51.0	0.0	52.2	0.0
Stutsman	11	10	5	10	12	52.1	47.3	23.7	47.4	58.0
Towner	1	6	3	2	3	44.0	265.1	133.2	88.8	137.0
Traill	3	2	3	7	3	37.4	24.9	37.4	87.4	37.3
Walsh	0	1	5	5	2	0.0	9.2	46.1	46.1	18.8
Ward	67	102	70	122	185	94.0	145.3	101.5	177.0	273.5
Wells	1	1	0	0	0	24.0	24.4	0.0	0.0	0.0
Williams	21	23	23	56	57	59.5	67.0	69.0	167.9	151.6